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THE

NEW-YORK JOURNAL OF MEDICINE,

AND THE

COLLATERAL SCIENCES.

EDITED BY

S. S. PURPLE, M. D., AND STEPHEN SMITH, M. D.

> Verumque est, ad ipsam curandi rationem nihil, plus conferre, quam experientiam.
>
> CELSUS.

VOL XIV. . . . . NEW SERIES.

NEW-YORK:
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TO READERS AND CORRESPONDENTS.

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CORRECTION.—We regret to find, in the last number of this Journal, page 393, that we have misquoted Dr. Gross in regard to the frequency of calculous diseases in colored people. The sentence referred to should have read, Dr. Gross considers colored people "remarkably exempt from calculous complaints."

The following works have been received:—

The Transactions of the American Medical Association. Instituted 1847. Vol. vii. New York: Charles B. Norton, 1854. 8vo. pp. 668. (From the Committee of Publication.)

The Microscopic Anatomy of the Human Body, in Health and Disease. Illustrated with numerous drawings in color. By ARTHUR HILL HASSALL, M. B., author of a "History of the British Fresh-water Algæ, etc., etc. With additions to the Text and Plates, and an introduction, containing Instructions in Microscopic Manipulations. By HENRY VAN ARSDALE, M. D. In two volumes, vol. i. New York: Samuel S. & William Wood, 1855, pp. 560 and 169. (From the Publishers.)

Principles of Physiology, designed for the use of Schools, Academies, Colleges and the General Reader, comprising a familiar explanation of the structure and functions of the organs of Man. Illustrated by comparative reference to those of the inferior animals. Also, an Essay on the Preservation of Health. With fourteen quarto plates and over eighty engravings on wood, making in all nearly two hundred figures. By J. C. COMSTOCK and B. N. COMINGS, M. D. New York: Samuel S. & William Wood, 1855. 4to., pp. 110. (From the Publishers.)

A Practical Treatise on Foreign Bodies in the Air-passages. By S. D. GROSS, M. D., Professor of Surgery in the University of Louisville, etc., etc. With illustrations. Philadelphia: Blanchard & Lea, 1854. 8vo. pp. 468. (From the Publishers.)

☞ *A Review of this work will appear in our next number.*

Nature in Disease, illustrated in various Discourses and Essays. To which are added Miscellaneous Writings, chiefly on Medical Subjects. By JACOB BIGELOW, M. D., Professor of Materia Medica in Harvard University, etc., etc. Boston: Ticknor & Fields, 1854. 12mo. pp. 391. (From the Publishers.)

A Dictionary of Medical Terminology, Dental Surgery, and the Collateral Sciences. By CHAPIN A. HARRIS, M. D., D. D. S., Professor of the Principles of Dental Surgery in Baltimore College, etc., etc. Second edition, carefully revised and enlarged. Philadelphia: Lindsay & Blakiston, 1855. 8vo. pp. 800. (From the Publishers.)

Report of the Select Committee of the Senate of the United States on the Sickness and Mortality of Emigrant Ships. August 2, 1854. Washington: 1854. 8vo. pp. 147. (From Hon. Hamilton Fish.)

Diseases and Injuries of Seamen: With Remarks on their Enlistment, Naval Hygiene, and the Duties of Medical Officers. By G. R. B. Horner, M. D., Surgeon U. S. Navy. Philadelphia: Lippincott, Grambo & Co., 1854. 12mo. pp. 252. (From the Publishers.)

Positive Medical Agents: Being a Treatise on the New Alkaloid, Resinoid, and Concentrated Preparations of Indigenous and Foreign Medical Plants. By Authority of the American Chemical Institute. New York: C. B. Norton, 1854. 8vo. pp. 304. (From B. Keith & Co.)

Transactions of the Medical Society of the State of Pennsylvania, at its Annual Session held in the city of Pottsville, May, 1854. Published by the Society. Philadelphia: 1854. 8vo. pp. 171. (From the Publishing Committee.)

Transactions of the Illinois State Medical Society for the year 1854. Chicago: J. F. Ballantyne, 1854. 8vo. pp. 112. (From the Publishing Committee.)

Congestion of the Brain in Cholera. Its Etiology, Diagnosis and Treatment. By James M. Newman, M. D., Health Physician. Buffalo, 1854. 8vo. pp. 25. (From the Author.)

Insanity in Italy. By John M. Galt, M. D., Superintendent and Physician of the Eastern Asylum of Virginia. [Reprinted from the American Journal of Insanity.] Utica: 1854. 8vo. pp. 19. (From the Author.)

An Introductory Lecture delivered at the Pennsylvania College, Medical Department, Philadelphia, October 13, 1854. By Alfred Stille, M. D., Professor of the Theory and Practice of Medicine. Philadelphia: 1854. 8vo. pp. 16. (From the Author.)

We are in receipt of our usual exchange journals.

☞ Communications intended for publication, and Books for Review, should be sent, *free of expense,* directed to Drs. Purple and Smith, Editors of the New York Journal of Medicine, 183 Hudson-street, *New York.* Persons at a distance may direct parcels, or exchanges, *paid* as above, under cover, to M. J. B. Bailliere, Rue Hautefeuille, *Paris;* or H. Bailliere, 219 Regent-street, *London;* or Lindsay & Blakiston, *Philadelphia;* or Ticknor & Co., *Boston.* The attention of Correspondents is respectfully requested to the above, as the Pnblishers are frequently subjected to unnecessary expense for postage and carriage.

All remittances of money and letters on the *business* of the Journal, should be directed to the Proprietors.

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THE NEW-YORK

JOURNAL OF MEDICINE

FOR JANUARY, 1855.

PART FIRST.

ORIGINAL COMMUNICATIONS.

Art. I.—*Observations on Typhus Fever.* By John W. Sterling, M. D., formerly Physician-in-Chief of the Marine Hospital, New York.

Can Typhus Fever be quarantined? or, *Is it possible to prevent that form of Typhus, which is usually styled* Ship Fever, *from being introduced into our cities by quarantine restrictions?* It is to the investigation of this question that the present paper will be principally devoted.

During the year 1852, upwards of 300,000 aliens arrived in the city of New York, of which number 118,611 were natives of Germany, and 118,131 of Ireland. The winter of this year was a very severe and sad one to many emigrants. Several passenger vessels, after having accomplished the greater distance of the voyage, in consequence of baffling winds, stress of weather, and shortness of provisions, were compelled to put back to Liverpool, where their half-famished and exhausted passengers were oftentimes obliged to reëmbark without being allowed time to recruit their shattered forces. The fatigues of this triple voyage, together with the poverty and destitution of many, of the

Irish emigrants especially, rendered their condition, when landed on our shores, truly deplorable. Numbers of them did not possess even a change of garments, so that attention to cleanliness, so essential to the preservation of health and the prevention of disease, had been too frequently neglected. Nevertheless, very few emigrants died during the passage, but many were landed at the Marine Hospital in a state of extreme exhaustion, with Typhus, or moribund. Of those who were permitted to proceed to the city, still greater numbers were subsequently sent down to Quarantine, at different times, by the agent of the Board of Health, with Typhus fever, contracted either on shipboard, or in the city; which disease, in consequence of the crowded condition of the wards of the Hospital, soon assumed pestilential malignancy: 3,040 were the subjects of it, and 513 its victims.*

As the question before us bears strongly upon the subject of the utility of quarantines, a subject at present occupying, more or less, the minds not only of the medical profession, of those engaged in commerce, and, doubtless, also of those who are, or whose friends may be, the tenants of a lazaretto; and as opportunity was afforded me, during the year under consideration, of collecting statistical data with a view of endeavoring to ascertain the period of *Incubation* of *Typhus* fever, I undertook to investigate this subject, not expecting to solve it, but with the hope of presenting some facts which might promote its solution.

With this object in view, I selected, from among the vessels which arrived at Quarantine, those from which the most

---

* *Report of Commissioners of Emigration*, for 1852, p. 18.

There is a discrepancy here with the Table in the Appendix of Admissions, &c., at Marine Hospital, as this Table shows there were of—

Febris, - - - -	- 1,086	cases and	63	deaths.
" Typhus, -	- 2,527	"	513	"
Pneumonia Typhoides,	- 40	"	49	"

This apparent incongruity is explained, by many of the cases of simple fever assuming the form of Typhus, and of the Typhus becoming complicated with Pneumonia, after admission.

TABLE I.

A Table of Sick Emigrants, admitted into the Marine Hospital directly from sundry vessels lying at Quarantine, and indirectly from said vessels after being landed at New York, from Jan. 12th to April 30th, 1852.

NAMES OF VESSELS.	Tonnage from Custom House.	Ports sailed from.	Number of alien Passengers.	Number of deaths during the voyage.	Anchored at Quarantine.	Number of sick sent to Mar. Hosp'l from ship.	Diseases of passengers sent to M. H. directly from vessels.		Number of sick sent from city of New York to Marine Hospital.		Between what dates sent from city to Marine Hospital.	Dates when the greatest number were sent from the city to M. H
	Tons.				1852.		Typhus.	Other diseases.	Typhus.	Other diseases.	1852.	1852.
Miles	266	Hamburg	102	2	Jan. 12	12	9	3				
Great Western	1,443	Liverpool	791	8	“ 14	115	60	55	92	30	Jan. 18 to April 14	Jan. 28
Yorkshire	996	“	429	9	“ 15	11	3	8	18	5	“ 23 — “ 30	Feb. 7
Rhein	644	Rotterdam	247	2	“ 16	5	3	2	10	8	“ 18 — “ 3	April 3
Reciprocity		Liverpool	372	7	“ 24	11	5	6	39	6	“ 29 — “ 29	Feb. 5
E. C. Scranton	1,186	“	568	7	“ 24	10	6	4	57	15	“ 27 — “ 6	“ 2
Ashburton	1,015	“	422	9	“ 25	10	2	8	35	8	Feb. 4 — “ 26	“ 20
Chasca		“	258	1	“ 26	18	9	9	34	4	Jan. 28 — “ 24	Jan. 28
Guy Mannering	1.418	“	439	1	Feb. 1	8	7	1	54	14	Feb. 2 — “ 27	Feb. 7
Liverpool	1,077	“	243	4	“ 15	14	4	10†	10	13	“ 18 — “ 29	Mar. 2
S. Morse		Glasgow	116	5	“ 15	5	1	4‡	2		Mar. 8 — “ 16	
A Z		Liverpool	216	8	“ 16	26	8	23§	10	5	“ 5 — “ 24	
Everthorpe	424	Galway	166	11	“ 20	28	20	8	20	7	“ 6 — “ 27	Mar. 12
Jenny Lind		Liverpool	203	4	“ 24	12	10	2	12	5	Feb. 28 — “ 29	
Princeton	1.136	“	350	3	March 2	5	5		20	4	Mar. 8 — “ 26	Mar. 13
Isaac Wright	1,161	“	519	7	“ 8	23	14	9	66	8	“ 10 — “ 27	
Garrick	895	“	390	6	“ 14	12	5	7	10	1	“ 27 — “ 20	
Sheridan	895	“	412	0	“ 30	7	1	6		5	April 1 — “ 19	
Constitution	1,327	“	647	2	“ 31	8	1	7	1	6	“ 8 — “ 29	
			6,890	96*		340	168	172	490	144		

---

* The ratio of mortality on board of these ships was derived from their *manifests* at the Office of the Commissioners of Emigration. It is a matter of surprise, in view of the hardships endured at sea from boisterous weather, that it was so small, being only $\frac{96}{6890}$ or $1\frac{3}{8}$ per cent.

† 9 of these were Variola.

‡ 4 ditto.

§ 19 ditto.

of the sick were sent, *directly* from their anchorage and *indirectly* from the city, to the Marine Hospital, during the first four months of the year 1852; which, with other data bearing upon the latency of Typhus, and derived from the Register of the Institution, are arranged in the preceding table (No. I).

On inspecting the preceding table, we perceive that 168 Typhus patients were admitted into the Marine Hospital directly from the vessels anchored at Quarantine, and 490 indirectly, after said vessels had landed their passengers in the city, and that the latter were sent down at different intervals of from two days to three months after their arrival. Now, there can be but little doubt that many of those, sent from the city to the Marine Hospital soon after their arrival, had the seeds of Typhus fever inherent in their system while on shipboard. It is doubtful, however, whether, in those who were sent down after a lapse of six weeks, or two months, this fever was incubated during the voyage, especially, as will appear in the sequel, as other *Fever Nests* were constructed in the city, which became a prolific source of this malady.

On examining the last column of the Table, we will find that by far the greater number of these sick passengers were admitted into the Marine Hospital in two or three weeks after being landed from these vessels. Hence, it is probable, we will not deviate far from the truth, by presuming that the limit of the incubation of Typhus seldom exceeds the latter period. Much, however, will depend upon the degree of concentration of the infectious poison, as well as the susceptibility of the patient.* In those who are in a state of great destitution, we must expect to find a less sound state of constitution, a more speedy access of disease, as well as a more violent degree of intensity; whilst those less destitute and impoverished, have greater powers of physical endurance, which will enable them to resist the pernicious effects of the deleterious agent for a longer period, or surmount it entirely.

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* Dr. Christison, in speaking of the effects of different degrees of concentration of fever poison in the wards of the Edinburgh hospitals, says that the virulence of the infection is in proportion to the number of the fever patients to the others, and the time of exposure to it; the nurses preceding the clerks and house surgeons, these the dressers, and these the general students and physicians.

The following interesting fact we find related by Dr. Joseph M. Smith, in his valuable paper on "Hygiene," published in Vol. iii. of the Trans. Amer. Med. Association.

"Dr. Harty," he says, "relates that a woman was confined by her husband for weeks, in a small, dark closet, without light or air, and without a change of clothes. The two gentlemen who liberated her were overpowered, while doing so, by the effluvia of the place. At the end of a week both sickened with fever; one died, the other recovered. Yet the woman who created this infectious atmosphere, though exposed to it for weeks, escaped. This example shows that the Typhus poison may not only produce the disease in one week from the time of exposure, but also, that some become gradually inured to it, their system, apparently, accommodating itself to its effects, and thereby resisting its pernicious influence.* And Dr. Bowie tells us that he "once went into a room where a woman was lying with Typhus fever, a small underground apartment, the window of which opened into a confined area or yard. To this situation she had been confined several days; the window and door were closed; none of the excretions had been removed. On entering the room, I (Dr. Bowie) was almost suffocated; the stench was intolerable. I rushed to the window and threw it open before I could speak a word. After paying my visit, when I got into the street, I was seized with headache, giddiness, and sickness. I was so ill the next morning that I was unable to rise, and was confined to my bed for several days." In this instance the infectious atmosphere, in which a Typhus patient was immersed, was well nigh producing a fever on Dr. Bowie almost instantaneously; and it is very possible it would not have required much longer exposure to it, ere the disease would have been fully developed.

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* See Report to both Houses of Parliament by the General Board of Health. Lond., 1849.

Physicians differ, however, with regard to the period that the germs of Typhus may remain dormant in the system, without manifesting themselves in the form of actual disease. To all other epidemic diseases the extra limits of incubation may be regarded as determined. Small-pox, scarlatina and measles have this period settled. With regard to the period of latency of the plague (Typhus gravissimus), Dr. Aubert says it never exceeds eight days; M. Hammont, eight or nine. Segur Dupeyren limits the extreme period of incubation of the plague to eleven, while Clot Bey fixes it at from three to six days.* Yellow fever develops itself in from two to twelve days, after infection; and pestilential Cholera in from one to ten days.† Indeed, I have had reason to believe, from my experience at the Marine Hospital, that Cholera may ensue within twelve hours after exposure.

Could the term of incubation of Typhus be ascertained with equal precision, it would afford an index for the period of probation of vessels, or rather their passengers, arriving with this disease, at Quarantine; but as Dr. Christison and several other medical authors of high repute extend this period to many months, it must remain doubtful how long it will be necessary to sequester an individual who has been exposed to its miasm, ere it will be considered safe, by those who regard this disease as contagious, to liberate him from quarantine restrictions. With regard to the *contagious character* of Typhus, it evidently produces its similitude; but whether it will do so in a pure atmosphere, where strict attention is paid to ventilation and cleanliness, is a question, one would suppose, has been almost positively decided in the negative.

With regard to its *infectious character*, this is evidently increased and the malignancy of the disease highly exalted by the concentration of the poison which engenders it.

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* See Encyclographie des Sc. Med., tom. xvi., 5th Series, t. ii., p. 189, and 5th Series, tom. xii., Brit. For. Med. Rev., vol. xvi., for 1843.

† N. Y. Med. Jour., vol. vii., p. 217.

Dr. Marcet* once collected a number of cases of Typhus, in one of the wards of Guy's Hospital, for the purpose of clinical instruction, when all at once the disease began to spread to other patients and the nurses, although it had not done so when the cases were distributed throughout the hospital, and it ceased to do so when they were again distributed.

"The liability of nurses and physicians," observes Dr. Joseph M. Smith, in his Report on Hygiene, "of contracting fever in an infirmary, is generally proportionate to the number of Typhus cases admitted into the wards." Dr. Christison says that "it has been invariably remarked, that the admission of a few cases into a general ward is attended with little or no risk of the fever passing to the other inmates of the wards. But so soon as the cases exceed considerably a third of the whole, then the fever begins to show itself among the domestic attendants, and to appear among the other patients." Similar observations have been made in the N. Y. Hospital. It has been remarked, by an English writer, in reference to the admission of fever patients into general hospitals, that "it has been found safer and better to have them scattered as single cases, throughout different wards, instead of congregating them into one," and he adds that "this plan has been adopted in more than one of the London hospitals, and we have no cause to regret its adoption." (*Med. Chirurg. Rev.*, No. 105, p. 229.) Dr. Leeson, physician of St. Thomas' Hospital, in his examination before the Sanitary Committee (see *Report of Board of Health of London*, previously cited), says: "Our present practice, contrary to that of former years, is to place our typhoid cases indiscriminately among other patients, and we then depend upon good ventilation for the protection of these patients." Dr. Monro, Dr. Roberts, senior physician of St. Bartholomew's Hospital,

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* See Med. Chirurg. Review.

Dr. Currie, of Liverpool, and Dr. Robert Percival, of Dublin, with many other hospital physicians, have fully tested the benefits arising from the dispersion of fever patients.

This may answer very well where there is no overcrowding, and facilities for thorough ventilation; but, during very cold weather and where the cases of fever are numerous, it cannot be done with safety to the other patients. There must, then, be fever wards, unless we wish all to be exposed to the infectious atmosphere of Typhus. The winter of 1852 was excessively cold; so much so, that the liquid medicines would frequently freeze on the tables, and notwithstanding ventilation, short of freezing the patients, was freely resorted to, yet the atmosphere of the wards was highly infectious. During this year, 8,887 patients were treated at the Marine Hospital, of which, the largest number at one time was 1,409, and the average, from January 24th to April 24th, was 1,062. Hence there was overcrowding of the wards, and ventilation could not prevent the atmosphere, around Typhus patients especially, from becoming highly pestiferous. From the 1st of June until the latter part of November, or until cold weather sets in, Typhus is not rife in the Marine Hospital, and then, during this interval, the dispersion of such cases throughout the wards is attended not only with safety but benefit.

It would put a stop to a great deal of caviling, or prevent frequent misconception, if the terms "infection" and "contagion" were precisely defined, and universally admitted by the profession. Mons. Rouchoux says: "*Contagion* consists of every communication of disease by a virus or scab, or some pus, *without regard to the proportion of the substances. Infection* is analogous to poisoning. The fevers of marshes and the Typhus afford examples of infection; variola and vaccina are contagious diseases; the virus by which these diseases are transmitted acts with the same energy, whether the dose be small or great." Here the line of demarcation between contagion and infection is drawn with a bold stroke. It is precise and intelligible.

Dr. Joseph M. Smith, in his report on Hygiene, lays down the following propositions, which he illustrates scientifically, and demonstrates conclusively:

"Typhus fever originates from human excretions.

It may arise from the excretions of persons in health.

It may arise from the excretions of persons in disease."

There were, as has been already stated, 3,040 cases of typhus fever at the Marine Hospital, during the year 1852; but this disease was not confined to the passengers who arrived in the vessels specified in our first table. Many cases originated in the hospital, and there were other sources from which a great number were derived. *Fever Nests* were fabricated in the city of New York, where typhus was hatched as well as on shipboard.

Let us look at the following table, premising that the Commissioners of Emigration are directed by law to receive into the Marine Hospital, at Quarantine, all cases of infectious and contagious diseases (itch and syphilis excepted) sent to it by the authority of the Board of Health of the city of New York.

TABLE II.

Admissions into the Marine Hospital during the first four months of the year 1852.

Admitted.	From Vessels.	From City.	From other sources*	Total.
January	204	846	28	1,078
February	91	1,058	44	1,193
March	83	870	35	988
April	57	968	25	1,050
	435	3,742	132	4.309

From which table we perceive, that of 4,309 sick emigrants, admitted into the Marine Hospital during the first four months of this year, only 439 were sent directly from vessels lying at Quarantine, whilst 3,742 were sent down to it from the city by order of the Board of Health, of which latter number, 634 only, as appears by our first table, came passengers in the vessels therein specified, and of the remainder, not a few with Typhus had been much longer in the country; so that it is evident that other *foci* of this malady existed distinct from those which were eliminated on shipboard, and no less pestiferous.

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* Principally from Staten Island, by order of the Health Officer.

According to the Report of the Commissioners of Emigration, for 1852, p. 8, "From the middle of November, 1851, until near May, 1852, the crowd of destitute persons, many aged, many with children, thrown upon our shores in a season of unusually early, and severe, and protracted winter, made much larger provision for their aid and shelter imperatively necessary; large additional buildings in Canal and Centre streets were procured on hire or lease, and fitted up for the reception of such applicants for relief. Before the end of January, these were found insufficient, and a very large unoccupied church in Duane street was procured for four months, as also a spacious brick building on Third avenue."

From the register kept of the numbers thus aided, it appears that there were

Lodged during the month of	January,	30,872	emigrants.
" " " " "	February,	31,126	"
" " " " "	March,	28,074	"
" " " " "	April,	23,210	"

making the whole number lodged, during these four months, 113,282. From information derived from Mr. Fagan, the Superintendent, the only building occupied by these emigrants, during the month of January, was Nos. 25 and 27 Canal street, so that it must have afforded lodgings for 30,872 individuals* of various ages; the greatest number lodged on any single night (the 14th January) being 1,516, and the nightly average for the month, 996. Many were the obstacles opposed to the Commissioners in their efforts to obtain suitable shelter for these unfortunates, ere they succeeded in procuring the additional buildings specified. Hence, whatever may have been the amplitude of the accommodations subsequently to the first of February, there evidently was overcrowding during the previous month. Here, then, at least one or more *Fever Nests* were evidently constructed; here must have been evolved, from the skin and lungs of these masses of human beings, an atmosphere sufficiently noxious to have engendered a highly malignant malady, and from these receptacles issued many of the most formidable cases of the Typhus that were sent to the Marine Hospital. It would probably be erroneous to infer that the 113,282 emigrants nightly lodged, during the first four months of the year, were so many distinct individuals; for the census seems to have been taken diurnally and footed up at the close of each month, so that many of them were numerically repeated in the register. Furthermore, we were informed by some of the patients themselves, that a certain portion were lodged, night after night, even for weeks, so that they must have became more or less saturated with the miasmatic atoms in which they were imbedded, until disease was fully manifest. In conjunction with this cause, we must consider the despondency arising from indolence and destitution, the habits of uncleanliness to which they were too often addicted, and the effluvia arising from other effete matters, besides those of the lungs and skin, as so many adjuvants to the engendering and fostering of disease. In short, here were sufficient materials for the incubation of Typhus, without calling in the aid of foreign importation, under the title of "*Ship Fever*," to account for its origin.

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*I can scarcely conceive it possible that all these persons could have been lodged in the building in Canal street. It is more probable that the building in Centre street must have received a portion of them during this month, and even admitting this, there must still have been much crowding, for, according to Mr. F., neither of them could conveniently lodge more than five hundred.

From the bodies of human beings there are continually emitted atoms, which, if retained within the organism, would produce disease and endanger life. Dr. Haller estimated the quantity of excrementitious matter evolved from the lungs and skin of a single adult, in twenty-four hours, at eight pounds. Dr. Joseph M. Smith computes the daily average of the cutaneous and pulmonary exhalations at forty ounces. Now, if we take the one half of this for the night, or twelve hours, the quantity would be twenty ounces for each individual, and which, for nine hundred and ninety-six persons, the nightly average of lodgers in the tenement in Canal street, during the month of January, the quantity of effete matters thrown off from the lungs and skin for this month would have amounted to thirty-eight thousand five hundred and ninety-five pounds avoirdupois, exclusively of the excrementary matters of urine and feces, which, doubtless, were not permitted to remain in the lodging-house. It is not very probable that, during this cold month, the ventilation was sufficiently free to carry off all the effete matters thrown off from the skin and lungs of these lodgers, or even the greater portion of it. The lodging-rooms must have been quite as much crowded as the between-decks of the Great Western, the ship from which the greatest number of sick was landed at Quarantine, and perflation could not have been more thorough in its low locality than on the turbulent billows of the boundless ocean; and if under such circumstances, at least not more conducive to health, Typhus was generated, is it necessary to resort to the supposition of the contagiousness of "Ship Fever" to account for the development of this malady?

Dr. Angus Smith has shown that, when the vapor which condenses on the walls and windows of a room, in which large numbers of persons are congregated, is examined, it is found to be impregnated with animal matter in a high state of putrefaction. The effect of respiring, over and over again, air holding such noxious matter in solution, is commonly experienced to be headache, giddiness, languor, nausea, and vomiting, and, if the breathing of such air be long continued, it may poison the blood to such a degree as to produce fever.

Such being admitted facts, we cannot avoid the conclusion that the congregation of so many thousands of individuals in a limited space, often amid accumulated filth, and in localities by no means the most eligible for health, must have produced noxious miasms, well calculated to engender and foster disease, or create those *Fever Nests* from which most of the Typhus patients were derived who were admitted into the Marine Hospital during the first third of the year 1852, and who were far more numerous than the sick landed directly from vessels. And the latter fact is quite sufficient of itself to prove that quarantine restrictions alone cannot prevent the introduction of Typhus into our cities. To do this, as well as to arrest its propagation, we must resort to preventive measures at home, and this is most effectually done by municipal sanitary regulations, strictly enforced. The best security against the spread of epidemic fevers is an abundant and constant supply of pure air. It is not so much by contact of the healthy with the diseased that Typhus is propagated, as it is by exposure of those who are susceptible to an atmosphere infected by the diseased. "Cleanliness and ventilation," says Dr. Christison, "will speedily extinguish any epidemic;" and it is quite as true that the prevalence and mortality of Typhus are in a direct ratio to the low sanitary condition of a community. The exhalations from the human being, when brought into contact with pure air, blend with it, are diffused, and dispersed by its currents; but when confined in the crowded tenements of the poor, which are generally located in narrow streets, lanes, alleys, courts, and in the most filthy districts of a city, or pent up in close, unventilated rooms, they are retained, accumulate, and, by concentration, become highly deleterious.

Furthermore, we cannot refrain from noticing the necessity for a more liberal supply of pure water, as well as pure air, among the sanitary measures which should be adopted by our Board of Health, or municipal authorities, in order to prevent the propagation of epidemic fevers, from whatever source they may originate. One thing is evident, among the more destitute emigrants, from specimens daily exhibited at the distributing Office of the Commissioners in the Park, where we often meet with contagious and infectious diseases of every kind, that personal cleanliness is sadly neglected, and it is truly a rank offense. Yet small blame is to be attached to the delinquents, for, unless they be washed by the rain and dried in the sun, they enjoy very few facilities for comfortable ablution. In Paris, where more attention is paid to personal cleanliness, and less drunkenness prevails among the lower class of citizens than in any metropolis in Christendom, pure water is to be had without money and without price. There fountains spout at convenient intervals, and the river Seine, as well as numerous baths, afford ample means for ablution. But in New York, how closely is the supply of this prime comfort of life and promoter of health withheld from the poor stranger and wayfarer. Probably there is no city in the world more bountifully provided, yet more niggardly served, with pure water than New York, I mean so far as the denizen of our streets or the pedestrian is concerned. To be sure, impaled fountains play sometimes in our parks, and soda water bubbles at almost every corner; but the pure, refreshing beverage, since the old-fashioned pumps were removed, is difficult of access. The hydrants at the corners, unless in case of fire, or for washing the streets, are to the thirsty stranger and pedestrian hermetically sealed, as if to compel them to resort to the soda water fount, or bar-room, to allay their thirst with drinks which are, at least, more expensive or pernicious, and thus, by being unwilling, or too diffident, to ask for that pure and cooling draught which would refresh and invigorate them, they are oftentimes led into an evil habit, which otherwise they might resist.

If, then, we desire to promote the public health, and prevent the propagation, if not the origin, of epidemic diseases in our midst, we must have an abundant supply of pure water, easy of access; plenty of fresh air, and room to breathe it freely; cleanliness, personal and municipal, and permit all immigrants to enjoy the benefit of these *non-naturals*, facetiously so called, freely.

ART. II.—*An account of the Cases of Dislocation of the Femur at the Hip-joint treated by Manipulation alone, after the plan proposed by* W. W. REID, M.D., *of Rochester, which have occurred in the New York Hospital during the past two years.* By THOMAS M. MARKOE, M. D., one of the Attending Surgeons.

IN the "Transactions of the Medical Society of the State of New York, during its annual session held at Albany, February 3d, 1852," is published a paper by William W. Reid, M. D., of Rochester, N. Y., on "Dislocation of the femur on the dorsum ilii, reducible without pullies or any other mechanical power," in which it is the object of the writer to show that this displacement can be remedied "by flexing the leg on the thigh, carrying the thigh over the sound one, upward over the pelvis, as high as the umbilicus, and then by abducting and rotating it."

The fact that luxations of the hip-joint might be reduced by manipulations, not requiring forcible extension by pullies or other mechanical contrivance, seems to have presented itself to the mind of several writers both of ancient and of modern times. The idea would appear sometimes to have been suggested by accident, and sometimes to have been the result of reasoning on the mechanism of the joint and its displacements. Such a suggestive accidental reduction occurred in the hands of Dr. Physick, and is related in Dorsey's Surgery. A patient was the subject "of dislocation of the femur directly backwards, and after very powerful efforts had been made to effect the reduction by extension, Prof. Physick, conjecturing that the head might be confined in a slit in the capsular ligament, discontinued the extending force entirely, and then, with no more force than that of his own hands, abducted the thigh, when the bone instantly slipped into its place."

A similar occurrence took place in our hospital, about the time of the introduction of the use of chloroform, in a patient with dislocated hip, under the care of Dr. Jno. C. Cheesman. While the preparations for applying mechanical force were being made, Dr. C. made some preliminary movements of the joint, while the patient was fully under the influence of chloroform, and, unexpectedly, the head of the bone slipped into its proper place. Dr. Nathan Smith, Prof. of Surgery in Yale College, succeeded in reducing a luxated femur, by manipulating, with the thigh and leg used as a lever, after the usual plan had failed. It would seem from the report of this case, which, however, is made from memory by his son, Dr. Nathan R. Smith, that it was a deliberate and prearranged plan of procedure, though the considerations which led to its adoption are not mentioned in the record.

Chelius, in his work on Surgery, gives an outline of the views of four writers, who have proposed to effect the reduction of the dislocated hip by the hands alone of the surgeon and his assistants, and without the aid of pullies, or, indeed, of any forcible extension. Three of these gentlemen, Wattman, Kluge, and Rust, have described methods not very different from each other, which essentially consist of moderate extension with the hand, combined with movements of rotation of the axis of the limb, adduction, flexion, etc., but with the addition of force applied by a band passed around the upper part of the limb, which is committed to an assistant, and, in the different forms of dislocation, is so applied as to lift the head of the bone from its unnatural resting-place, while the other movements made with the shaft of the limb give an opportunity to the muscles, stretched by the luxation, to draw the head back into the acetabulum. Another surgeon, referred to by Chelius, Colombat, speaks of a method which he has always employed with success, in which the patient stands at a table leaning forward with his chest upon it, and the surgeon, standing behind, bends the knee with one hand, and makes the various movements of the hip-joint, while, with the other hand on the ham, he makes gradual extension by pulling downwards. By this manœuvre, he states that he dislodges the head of the bone, and without any force accomplishes its reduction. In Casper's Wochenschrift for Nov., 1849, there is an account given by Dr. Fischer, of Cologne, of his mode of reducing luxations of the hip, which consists in flexing the femur on the trunk, and then making rotation of the limb, conjoined with adduction, or abduction, as the head of the bone is on one side or the other of the acetabulum. In the *N. Y. Journal of Medicine* for March, 1852, a Dr. Mayr is spoken of as having made use of this procedure of Dr. Fischer, without being aware of Dr. F.'s published statement.

Dr. Reid, in his paper, gives us an account of his observations on this subject, which appear to have been made entirely independent of any knowledge of the previous opinions of other writers. He speaks of his early impressions, on seeing the management of some cases of dislocated hip after the usual method, and gives his reasonings and reflections and experiments, on the muscular actions and the mechanical forces which were concerned, or might be employed, in the production and in the reduction of these displacements. He describes the steps by which he was led to the adoption of his mode of operation, and, what is most to the purpose, he gives five cases in which the operative procedure, to which he was led by reasoning, was successfully employed. It is no part of the object of this communication to criticise or to eulogize Dr. Reid's paper; but, having tested to some extent the value of the proposed plan, we feel that we owe to the profession a full statement of what appears to us to be a most valuable contribution to the art of healing. It is still less our intention to mete out the degree of praise which is due to Dr. Reid as the originator of the idea upon which the practice is founded. It would seem, from the little historical sketch given above, that the idea had occurred to others before it occurred to him, and that, therefore, the barren honor of being the first suggester of the idea, that luxations of the hip might be reduced by manipulations alone, does not belong to him. All who read his paper, however, will acknowledge, that to him belongs the higher honor, of having caused the idea to assume the shape and value of a fact, and out of the bare suggestion to have, by patient, ingenious, and long-continued investigation and experiment, deduced an available, and, as we think, an exceedingly valuable addition to the resources of Practical Surgery.

CASE 1.—The first opportunity which presented itself for the trial of the new method, was in the case of an Irish laborer, who was brought into the New York Hospital, November 30th, 1852, with a luxation of the right thigh. He had been struck, a short time before admission, by the cow-catcher of a passing railway train, and thrown some distance, and in his fall, probably, the accident was produced. The symptoms were those of the dislocation on the dorsum ilii, the head lying rather lower down and nearer the ischiatic notch than usual. The thigh was shortened about two inches, tended across the other, with the ball of the great toe of the injured limb touching the instep of the other foot, fixed in its position, and the head of the femur was felt in the position above described when the thigh was rotated on its axis. In addition to this injury, he had received a compound fracture of the left leg, three inches above the ankle, together with a good deal of bruising of other parts of his body. The patient was etherized to the extent of complete relaxation, and Jarvis's Adjuster was applied. It broke on the first trial of extension, and was laid aside. This mischance suggested the trial of Dr. Reid's plan, which was accordingly adopted. The operator, Dr. Buck, after bending the leg upon the thigh, gradually adducted the thigh, while at the same time it was being flexed upon the trunk. Carrying the limb thus bent at the knee, and strongly adducted, over the sound thigh, by a gradual sweep over the abdomen, and then slowly and steadily abducting the limb so as to carry the knee outwards, making at the same time a rocking motion by moving the leg backward and forward, had the effect of dislodging the head of the femur from its new position, and making it approach the acetabulum; but it did not enter the socket. From the position above indicated, the limb was now brought down slowly towards a straight position, still kept in a state of forced adduction. This last manœuvre seemed to have a very powerful influence in forcing the head towards the acetabulum, but the whole proceeding was completed without success. It was observed, however, that the head had been moved a little higher on the dorsum than it was before. The same manipulation was now again practiced more deliberately and more carefully than before, and as the limb was being brought down abducted, we had the satisfaction of seeing and hearing the reduction effected, by the head of the bone slipping into its socket. All deformity had disappeared, and the motions were free in all directions. The other injuries were properly attended to, and the recovery from the effects of the luxation was rapid and satisfactory. He finally recovered from his compound fracture also, and left the hospital with a good leg and a perfect hip.

Case 2.—An Irish laborer, aged 25, received an injury of his right hip, and a fracture of one of his clavicles, by being thrown from a railroad car, while it was in motion. He was received into the New York Hospital, December 8th, 1852, under the care of Dr. Halsted. On examination, the injury to the hip proved to be a luxation of the femur upwards and backwards on to the dorsum ilii. The patient was placed immediately under the influence of ether, and the reduction was attempted by a procedure nearly the reverse of that above described, in Case 1. The leg being flexed upon the thigh, the limb was flexed upon the trunk and carried up in a state of abduction, then across the abdomen, and being fully adducted, was, in that state, brought down to the straight position. The effect of this mode of operating, which is almost precisely that said to have been employed by Prof. Nathan Smith, was to throw the head of the bone forwards, under the anterior superior spine of the ilium, and it was quite evident that a very little more force in the same direction would have brought it upon the pubes. This plan was therefore abandoned, and Reid's manipulation was tried carefully and without the employment of much force. On the first trial it was successful, the bone being reduced with an audible snap, as the limb was being brought down in a state of abduction. The recovery was rapid and perfect, and he was discharged, cured, January 15, 1853.

CASE 3.—Charles O. Merritt, a sailor, thirty-seven years old, of a stout, vigorous frame, was admitted to the hospital with a luxation of the femur, of twelve weeks' standing. Attempts had been made, by an excellent surgeon of this city, to reduce the bone, but without a satisfactory result. A very careful examination was given to the limb by all the surgeons of the Hospital who were present, and all agreed that the head of the femur was thrown upon the dorsum of the ilium, in the usual situation; but some doubt existed whether there might not also be an injury of the acetabulum itself. The patient being fully etherized, Reid's manipulation was tried, and, on the first trial, failed, the head seeming to remain nearly in the position it occupied before the operation was commenced. Dr. Watson, under whose care the patient was, now made a second more careful effort, using more force in making all the movements, but being particularly careful to make forced abduction while bringing down the limb from extreme flexion to the straight position. As the limb was thus descending, slight rocking motions being at the same time employed, the reduction was suddenly accomplished, the head of the bone being felt, or heard by a great number of persons, to slip into its socket. The limbs being laid side by side, all deformity had ceased, and all present were satisfied that the reduction was complete and perfect. The patient's knees were bandaged together in the usual manner, and he was placed in bed with rather more care than usual, but in less than an hour it seemed as if the joint had lost its natural appearance again in a slight degree, and the apparatus was tightened. By next morning, however, it was too evident that the original displacement had again occurred, and to its fullest extent. This had taken place in spite of the greatest quietude on the part of the patient, who was a very intelligent, tractable person, and fully aware of the importance of keeping the joint unmoved. The manipulations were again tried several times, but without effect. The head of the bone seemed to move about freely in all directions, but could not be brought into the acetabulum. The limb was put up in the straight apparatus which we usually employ for fractures of the thigh, and extension, by the adhesive straps, was kept up so as to keep the parts, as nearly as possible, in proper position. A good deal of stiffness and swelling of the joint followed, which, however, subsided, and he was allowed to go about on the 30th January. He finally gained about as much use of the joint as if there had been a fracture of the cervix femoris. I am informed by Dr. Buck that he has since gained a very excellent use of the limb.

Case 4.—John Kelly, a laboring man, aged twenty-one years, was admitted May 22d, 1853, having been knocked down by a horse-car, by which a luxation of the left hip had occurred into the ischiatic foramen. The limb was shortened about one inch, toes turned inward, and the head of the bone felt in its new situation. The reduction was attempted by the mode described above, the man being fully relaxed by ether. The effect of the first attempt was to throw the head on to the obturator foramen, making the limb longer than the other, and producing the deformity characteristic of that dislocation. From this point, by a slight alteration of the movement, the head could be made to slip back to its original position. Between these two points it could be made to play backwards and forwards, but would not enter its socket. Dr. Post, in whose charge the patient was, then employed the usual mode of reduction, from the foramen ovale, viz., extension of the limb, combined with a lifting of the head of the bone over the edge of the acetabulum, by the help of a folded sheet passed round the upper part of the thigh. This proved successful, without resorting to the pullies. In this case the cure was very slow, and he left the

Hospital with some degree of pain and swelling about the joint. I learned that an abscess formed in or about the joint, which was opened, and when I saw him a year after, there was every appearance of seated morbus coxarius.

CASE 5.—Michael Delany, a boy aged eight years, was admitted into the house June 29th, 1853, having received very severe injuries in falling from a ladder, at the height of the third story of a house, to the ground. There was found to be a bad compound fracture of the right thigh, and simple fracture of the left. When laid upon a bed, and his clothes removed, the right thigh, which was the seat of compound fracture, was found to be in an extraordinary position. It lay obliquely across the abdomen of the boy, with the leg and foot lying up by the axilla of the left side. On examination, it was discovered that this singular position was rendered possible by the fact that the head of the femur was dislocated backwards and upwards, on the dorsum ilii. The house surgeon, to whose care the case fell on admission, took the injured limb in his hands and very carefully carried it over the abdomen to the right side, and then abducted it and brought it down towards the straight position, thereby completing the steps of Reid's manipulation, which accident had already commenced. In doing this, the head of the bone slipped into its place, and the hip gave no further trouble. The fractures of both thighs went on favorably towards a cure, and he was discharged well, August 23, 1853.

CASE 6.—John Gallagher, twenty-eight years old, a stout Irish laborer, was brought into the Hospital about half an hour after he had fallen from his cart while intoxicated. He was found to have a dislocation of the left femur upon the dorsum ilii, and was immediately sent to the operating theatre and placed fully under the influence of ether. I then proceeded to employ the manipulation above described, but as we were completing it by bringing down the limb strongly abducted, it became evident that the head of the femur was about to slip below the acetabulum into the foramen ovale, as had occurred in Dr. Post's case, No. 4. The movement was therefore reversed and again more carefully tried, with the same result. On the third trial, with the view of avoiding this tendency of the head to be forced below the acetabulum, I brought down the limb in a state of very slight instead of very strong abduction, making the movement very deliberately, and accompanying it with the usual rocking motions of the limb on its axis. This plan was perfectly successful, and the bone slipped easily into its place, and the cure was rapid and perfect. All the movements in this case were made with the greatest facility, and without the necessity of employing any more force than the weight of the limb required.

After the reduction in this case, I made a dissection of the hip-joint in a recent subject. I had previously made several dissections with reference to the action of the different muscles and their condition after luxation. In this instance, however, I removed all the muscles, leaving the capsular ligament only, and then endeavored to dislocate the head of the bone. I first tried adduction, and carried the limb so forcibly over the abdomen that the knee touched the anterior surface of the thorax, but without producing luxation. On making more violent efforts in the same direction, the cervix fractured or rather cracked across within the capsule, and soon after the ligament itself tore across at its superior and posterior part, just opposite the point of yielding of the cervix. The laceration was directly across the ligament, and occupied about one-half of its circumference. As soon as this took place, the dislocation was easily effected. The neck of the femur and the trochanteric portion of it were now seen to be kept in their place by the untorn portion of the capsular ligament, which acted as a sort of fulcrum, upon which, by using the limb as the long arm, we could make the head, as the short arm, move about in any direction upon the surface of the dorsum of the ilium. On making the manipulations for its reduction, the head was observed to pass behind the acetabulum until it reached its lower margin, and if the thigh was brought down slightly abducted, it slipped easily over this least elevated part of the margin into its socket. If, however, it was brought down very strongly abducted, the head, instead of passing into, went below the acetabulum, and passed on to the foramen ovale, as it was about to do in Gallagher's case, No. 6, and as it did repeatedly do in Kelly's case, No. 4. Still further, we observed that after we had reduced the bone it slipped very easily out of place again, and this was explained by finding that in the reduction, the head had not gone back through the rent in the capsular ligament, but, remaining outside, had pressed the capsule before it into the acetabulum. This, of course, prevented the complete reception of the head of the bone into the socket, and permitted it to slip out again with the greatest facility. This entanglement of the head in a button-hole opening of the capsular ligament is noticed by many surgeons as an obstacle to complete reduction by the old plan with the pullies, and I do not perceive that the new method offers any advantages in this particular. Might not this have been the condition of things in Merritt's hip, Case No. 3?

CASE 7.—Francis Cotbunger, an Irish turner, was admitted to the N. Y. Hospital, December 12th, 1853, with a dislocation of the right hip. The accident had occurred about four weeks previously, and had been treated in the country, as a sprain, by leeches, etc. The limb was lengthened, the toes everted, and the whole limb stood off from the body abducted, and slightly flexed, symptoms which clearly showed that the head of the bone was upon the foramen ovale. The patient being fully brought under the influence of ether, a manipulation the reverse of Reid's was employed by Dr. Halsted. The leg being bent upon the thigh, the thigh was gradually flexed upon the trunk until the knee touched the thorax. The limb was then brought down, forcibly adducted, into the straight position. By this the head of the femur was moved from the foramen ovale on to the dorsum ilii. Being in this situation, Reid's method was adopted, with the effect, however, of bringing back the head to its original position on the foramen ovale. By a repetition of the first manœuvre, it was again thrown on the dorsum, and from there, by Reid's plan, again thrown back upon the foramen. After repeated attempts, the bone was finally reduced by the pullies from the dorsum in the usual way, this being the only instance in which the pullies or Jarvis's Adjuster have been used, since our attention has been called to the new plan. It will be noticed, however, that the limb was every time brought down in a state of forced abduction; the moderate abduction found successful in Gallagher's case, No. 6, was not tried. A good deal of swelling and pain in the joint followed these various operations. He was up and and about, however, by the 5th January, and on the 13th he was discharged, cured.

Case 8.—Hugh Doyle, a sailor, 22 years old, was admitted to the Hospital, April 22d, 1854, with a dislocation of the left thigh upon the foramen ovale. The limb was in a position of abduction, rotated outwards, with the foot resting on its outer edge. The muscles arising from the pubes and ramus of the ischium were very tense, adduction was impossible, and the prominence of the trochanter was gone. From this deformity, the position of the head, with regard to the acetabulum, was clear. He was also suffering from other severe injuries, which had been produced by the fall, in which the hip was luxated. He was put fully under the influence of ether, and the reduction was first attempted in the usual way, by Dr. Buck, by direct extension of the limb in the direction of its axis, while at the same time the upper part of the thigh was lifted forcibly outwards by means of a sheet folded round it. This had not the desired effect, and would have required the pullies to make it effectual. Another manipulation was then tried. The leg was flexed upon the thigh, and the thigh upon the trunk. The foot was then pressed forcibly outwards, thus rotating the thigh inwards on its axis, and giving the head of the bone an inclination outwards towards the ischiatic notch. The pelvis at the same time was held firm by assistants. This was repeated twice, each time with the effect of causing the head to move considerably from its resting-place, but without entering the socket or going over to the notch. On the third time of making the manipulation, the thigh was brought down from entire flexion to a little below a right angle, and while in this position the foot was again forced outward as before. This plan proved successful, and the head of the bone slipped into its proper place in the acetabulum. This was accomplished without any considerable force or difficulty. The cure went on favorably, and without unusual symptoms.

CASE 9.—Fritz Frieze, aged 38, a German sugar refiner, came into the Hospital, May 23, 1854, with a luxation of the left thigh, which had occurred fourteen days before from a fall. The surgeon who first saw him pronounced it a mere contusion, and had allowed him to walk about, which he was able to do without much pain, though, of course, with a very great halt in his gait, and with great labor in the movements of the injured hip. As he stood erect, the left thigh inclined outwards and forwards from its proper direction, the toe of the injured limb touching the floor about ten inches from the other foot. The limb was an inch longer than its fellow, and the adductor muscles were tense. Adduction was impossible. The trochanter was fallen in towards the pelvis and thrown backwards and downwards. On making rotation, the head of the bone could be indistinctly felt moving on the foramen ovale. After having the patient fully relaxed by ether, I made some free movements of the limb in all directions, with a view of breaking down any adhesions which might exist. I then took hold of the ankle of the injured limb with the right hand, while I supported the thigh with the left; I flexed the knee to a right angle, and moving the thigh a little forwards, to relax the tense adductor, I forced the foot inwards, making, at the same time, a rocking motion of the whole limb on the pelvis. My idea was, by rotating the thigh outwards, to throw up the head of the bone towards the acetabulum, from which it could not be distant more than an inch. This manœuvre was not successful, though carefully and repeatedly tried. We then tried the plan adopted by Dr. Buck, in Hugh Doyle's case, No. 8, with the effect of throwing the head upon the ischiatic notch. By reversing the movement, the head was easily thrown back to its previous position on the foramen, and the first manipulation was again tried, combined with a movement of strong adduction in a direction which carried the knee behind the other one. This, accompanied with the rocking motion, which we have found useful in all these replacements, accomplished the reduction on the first trial, and without the slightest violence or excess of force. The head slipped in with an audible snap, and the limb assumed its natural shape and position. The cure was rapid and perfect.

The two last cases were experimental, as we had no knowledge of any recorded precedent which gave us any assistance in their management. We were led to adopt the modes of manipulation, simply from reasoning on the effect which the movements of the thigh would produce on the position of the head of the femur. An attentive examination of the skeleton, with the head of the femur placed on the foramen ovale in the position it assumes when luxated, will show that, while the head lies upon the foramen, the neck lies along the side of the pelvis in such a manner as to bring the trochanter about opposite to, and a little below, the acetabulum. If, now, we hold the trochanter fixed with one hand, and make the two movements described in Cases 8 and 9, it will be observed that the head can be brought into place by both of them; but, at the same time, it will be observed that, when the trial is made by rotating the thigh inwards, thereby causing the head to move outwards, the head, in order to reach the socket, has to pass through a sweep of $\frac{3}{4}$ of a circle, and then crosses the lip of the acetabulum at a point where it is very prominent and very difficult to surmount. If, on the contrary, the rotation of the thigh is made outwards, so as to throw the head inwards, it has only a space of about an inch to pass through in order to slip into place, and the portion of the brim over which it passes is much less elevated and prominent. The movement of adduction in a direction a little backwards, as employed in Case 9, has evidently the effect to lift the head over the edge of the acetabulum when the rotation has brought it to that point. It will also be noticed that in the outward sweep of the head, it has, in order to get up to the acetabulum, to pass by the ischiatic notch, into which it is exceedingly prone to slip, as actually occurred in Case 9, and also in Case 4. For these reasons, I am disposed to consider the manipulation employed in Case 9 to be the correct and most effectual one in this form of luxation, and that though in a recent and favorable case the outward movement of the head might succeed, yet that in a difficult or long-standing case it would fail entirely, or be attended, if successful, with a great degree of violence and laceration. This is a point, however, which can only be settled by more ample experience and careful experiment. From the comparative rarity of this form of luxation, this experience can only be slowly obtained, and we should feel greatly indebted to any gentleman who may have an opportunity of managing such a case by manipulation, if he would transmit to us the results of his experience.

CASE 10.—Dr. Dewitt C. Peters, late house-surgeon of the N. Y. Hospital, now of the U. S. Army, writes from Pawnee Fork River, Kansas Territory, under date of Sept. 24, 1854, "I have had one case of dislocation of the head of the femur into the ischiatic notch, which I reduced immediately after it occurred, by putting the man under the influence of ether and employing the method of Dr. Reid." The man had been thrown violently by an unruly mule he was attempting to harness.

The following letter, from Dr. W. Parker, Professor of Surgery in the University of the State of New York, adds two more valuable cases to our list.

NEW YORK, *Nov.* 10, 1854.

DEAR SIR:—In compliance with your request, I send you an account of two cases of luxation at the hip, which I reduced after the plan proposed by Dr. Reid, of Rochester, N. Y.

Case 11.—July 11, 1853. I was called in the evening, to Mr. P—— C——, a contractor, hale, muscular, and forty years old. I found him lying on the carpet, complaining of pain. He was thrown from his carriage, by the running away of his horse. On examination, I found the left limb an inch and a half shorter than the other, and the foot turned inward. The head of the femur was in the sacro-ischiatic notch.

I put him *fully* under the influence of chloroform, and proceeded to reduce the thigh. In my first attempt, I carried the head of the bone into the foramen thyroideum. By a slight movement and without force, the head of the bone passed up to the notch. I at once made the second trial, and carried the bone into place with the utmost ease. The patient was soon at his business.

Case 12.—November 1, 1854. Mrs. K., aged forty-four, fell some eighteen feet, injured the brain and luxated the left thigh. I saw her at two P. M. Advised to dress the head, get up reaction, and I would be back in a few hours to reduce the limb. This was a luxation upon the dorsum. She was strong and muscular.

I found her in the evening warm and sensible. I applied choloroform and proceeded to reduce. I accomplished it after the plan of Dr. Reid, without any violent effort and in a most satisfactory manner. I am prepared to say, the profession are under great obligations to Dr. Reid for the plan of treatment which he has suggested and demonstrated in the reduction of luxations at the hip-joint. With the aid of *an* anæsthetic the plan is perfect. W. P.

Case 13.—Samuel Gordon, aged thirty-seven, Ireland, laborer, was brought to the N. Y. Hospital, November 22, 1854, with a luxation of the right hip, and a fracture of the right leg. The accident had occurred immediately before admission, from the falling of the wall of the Gas-house. The head of the bone was found on the dorsum ilii, rather low down towards the ischiatic notch.

Nov. 24. The leg having been dressed firmly with pasteboard splints, so that it might not receive injury during the reduction of the hip, the patient was fully etherized and Reid's plan of reduction was tried by Dr. Watson, twice or thrice without effect. This plan was abandoned, and the pullies were faithfully and for a long time employed. The head descended, but would not pass into its socket. Thinking that Jarvis's Adjuster would give more control over the movements necessary in replacing the bone, it was applied, and with it the head of the femur was brought down so that it seemed ready to slip in, but on cutting the cord it was found unreduced. It was thoroughly tried until the steel shaft bent, but without success. Under these discouraging circumstances, the pullies were again about to be applied, when it was thought best to give Reid's plan one more trial. The manipulation was performed twice, without success. The third time it was done more deliberately and more carefully, and when the head of the bone was brought to the lower edge of the acetabulum, it was retained there for a time and the rocking motion performed in all directions, and when all seemed loose and free, the abduction was increased, without any jerk or sudden motion, and the limb brought down thus strongly abducted towards the straight position; as this was done, the head of the bone slipped into place with an audible snap.

From the small number of cases here presented, even with the addition of those recorded in Dr. Reid's paper, I do not consider that we can obtain data sufficient for the final appreciation of the new plan of reducing luxations of the hip-joint. Still, they seem to be sufficient to show us that the plan may be safely, easily and successfully applied to a certain number, and probably to a very great proportion of all the cases which occur. The cases which are related embrace every instance of dislocation of the femur which has presented itself in the Hospital during the last two years, and a reduction was always effected without the aid of pullies, except in the one case of Dr. Halsted, No. 7, and here a modification of the manipulation, which had previously proved successful, was not tried. In Dr. Post's case, No. 4, the reduction was finally effected from the foramen ovale by the usual mode, though without the pullies, but it was brought, by the manipulation employed, to this point from the ischiatic notch, from which it would surely have required the pullies to displace it on the old plan. It is to be observed, too, that our experience has been progressive, and while, at the time Case No. 4 occurred, we did not know how to reduce the bone from the foramen ovale by manipulation alone, that we have since learned the true method of doing it, if our experience, in Cases 8 and 9, can be relied on. Though we have failed, then, in reducing, by the new plan, two cases out of the thirteen, yet I think that the record shows good reason for believing that all might have been so reduced, if we had known at the time as much as subsequent cases have taught us. The applicability of the plan to cases of long standing, is well shown in Merritt's case, No. 3, where twelve weeks had elapsed, from the time of the accident, and in which, though not permanent, the reduction was effected with comparative facility.

With regard to the rationale of the process, most of those who have written on this matter are in the main points agreed. The head of a dislocated femur is retained in its new position by a mechanism which does not exist in any other joint, and which is produced by the fact of the muscles not being inserted into the head, but into the trochanter, nearly three inches from the head, and that from this point of principal muscular insertion the neck goes off at a large angle from the axis of the shaft. From this, it happens that when the head of the femur is thrown out of its socket, the trochanter no longer stands out more prominent than before, but being held firmly by the muscles which are inserted into its base, it is prevented from rising any more than enough to let the head out of the acetabulum, while the head and neck, slipping to the one side or the other, are found lying in such a manner that the side of the head, neck and trochanter are in contact with some part of the outer surface of the pelvis, varying, of course, in the different forms of luxation. This being borne in mind, it will be clear that any attempt at reduction, which merely brings the head of the bone to the acetabulum, will not succeed in making it enter that cavity, because of the lying-down position of the neck and trochanter against the side of the pelvis. We need, therefore, not only to bring the head over the socket, but at the same time to raise up the trochanter, and neck so as to allow the head to enter. Now, in the ordinary methods of reduction, this raising up of the trochanter, so as to put the neck in the proper direction for the head to enter its socket, is done first, by the action of the pullies, and the approximation of the head to the socket is done second, by the continuation of the extension. This raising of the trochanter is, of course, opposed strongly by the muscles inserted into its base, causing the head to be pressed more and more firmly against the pelvis, and increasing the friction, and thereby causing, by far, the greater part of the difficulty in bringing down the head to the level of the acetabulum. It is in this, principally, and I am myself disposed to say only, that any active muscular contraction opposes the reduction of a dislocation of the hip-joint. True, the large muscles around the joint are thrown into action as soon as extension is made; but this is an action excited by the extension, and, that it is a very feeble opposing force, is evidenced by the facility with which these muscles give way to the force of a single unaided arm, when a fracture of the neck of the femur is concerned, in which, of course, none of the friction alluded to can occur. This comparative action of the muscles, in fracture and in dislocation, is very strongly and appropriately insisted upon by Dr. Reid.

The process by manipulation avoids this main difficulty, and, as it were, eludes the opposition of the muscles. The trochanter, being fixed by the insertion into its base of the pyriformis, the two obturators, the gemelli, and the upper part of the quadratus, acts as a fixed point or fulcrum, upon which, by moving the limb, the head of the bone can be made to describe a circle round the fulcrum. When we remember that this fulcrum is not, strictly speaking, a fixed point, but has a certain degree of motion of its own, we can easily see how, by means of this movable fulcrum, the head of the bone can be placed, by varying the motions of the limb, on almost any point within two inches around the acetabulum, and, of course, over the acetabulum itself. If this manipulation is made in such a way as not to raise the trochanter from lying against the pelvis, then, when the head comes over the acetabulum, a slight rotation, such as is given by the rocking motion employed, will sufficiently raise the trochanter to let the head slip in without provoking to opposition the trochanteric muscles, and if the movements be made in such a direction as to relax the stretched muscles, the whole may be accomplished without calling forth the slightest muscular opposition from the beginning to the end of the procedure. This principle, in its application to the different forms of dislocation, presents some variations. In the dislocations on the dorsum, and on the ischiatic notch, for their mechanism is for our purpose identical, the principle has its best illustration; and, if any one will take the skeleton or the dead subject, and go through the process, he will perceive that, by adduction, the tense rotators are relaxed, and that, by flexion of the thigh upon the trunk, the head is caused to pass down behind and below the acetabulum, and then, by carrying the knee out so as to abduct the limb, that the head comes toward the lower portion of the acetabulum where its margin is least prominent. At this point, I wish it to be observed, that our mode of procedure varies a little from Dr. Reid's. He recommends, when the head is brought by abduction close to the lower edge of the acetabulum, that, by the rocking movement already described, it be caused to slip in. This is well, and will probably answer in many cases, but it failed us so completely from the first, that we were led to add the bringing down of the thigh to the straight position in a state of abduction, still keeping up the rocking motion, and it has been uniformly in the act of thus bringing down the limb, that the reduction has been accomplished. On looking at the parts in the dead subject, it will be seen that this movement of the limb, when the head has reached the lower margin of the acetabulum, tends directly to roll the head upwards over the edge and into the socket. The mechanism of the reduction from the foramen ovale has already been alluded to. I do not know of any case of reduction from the pubes.

If the proposed plan should prove, on further trial, to be as successful and as free from danger as it thus far has been, one most valuable feature of it, as a surgical resource, will be its availability. Wherever a surgeon, with his bottle of ether, can go, there the dislocated hip can be reduced, without instruments, without appliances, without assistants. I well remember finding myself, in the year 1848, in a country village in Vermont, in consultation on a case of dislocated hip of some weeks' standing, in which it was difficult for us to persuade the patient's friends that there was any thing more than a sprain of the joint. It was late on a cold autumn day, and we were about twenty miles from any place where pullies could be obtained; but, nevertheless, we made such extempore arrangements as we best could, and by the help of an old tackle-block and some bed-cord, with counter-extending bands of hanks of homespun yarn, we proceeded to attempt the reduction. If we had been heartily seconded by the friends and family, we could, I have no doubt, finally have succeeded, even with our clumsy apparatus; but the doubts and hesitations on their minds, and their unwillingness to allow the patient, a stout, muscular young woman, to be so long and so repeatedly subjected to our unsatisfactory attempts, finally decided the case against us, and we were dismissed without thanks or fee, and the poor girl's hip has never been reduced to this day. I have often thought since, how different an aspect matters would have worn, if we could have brought the manipulation to bear upon the case, and how different a result might have been obtained for the unfortunate patient. No better illustration, however, could be given of the availability of this operation than that given in the letter of Dr. Peters, giving an account of Case 10, in which he says, that the accident occurred in the heart of Kansas Territory, five hundred miles from the nearest fort. If the poor man had depended upon pullies for the reduction of his dislocation, how much delay and suffering must he have undergone, from which he was saved by the simple fact that Doctor Peters was familiar, during his hospital course, with the management of these cases by manipulation, and was therefore able, on the spot, to effect with ease a reduction which every day's delay would have rendered more difficult.

Every thing in our experience thus far seems to indicate that this method of reducing luxations is as safe, if not safer, so far as the integrity of the joint and its after usefulness is concerned, than the reduction by forcible extension with the pullies. The method is not, however, without its dangers, and these mainly arise from the immense amount of force which can be exercised by acting on the long arm of so powerful a lever as the whole limb, while the short arm has at most a length of three inches. By the inconsiderate or misdirected action of this lever force, one of three accidents might be produced: either the muscles holding the trochanter, and thereby forming the fulcrum on which the power is applied, might be torn from their attachments; or, if they held fast, the tissues, round and among which the head passes in its movements, may be extensively lacerated or contused; or, lastly, it seems to me very possible that the neck of the bone might be broken by too violent abduction, forcing it against the side of the pelvis. Though happily these dangers are thus far only theoretical, yet the anatomy of the part shows that they are real, and each one of them might have most serious consequences. It would not be possible to lay down any specific rules whereby these dangers are to be avoided, except by insisting on that almost universal law of surgical manipulation, that every thing is to be done with gentle moderate force, and never with sudden violence. As far as my recollection serves me, and I myself assisted in almost every case reported, we never have accomplished any thing by proceeding in a direction where great force was required to continue the movement, but have always succeeded by finding a direction in which the mere continuance of the movement, without force, has brought the head into the proper position. It will be noticed, by looking over the cases, that in many of them, before the head went into its socket, it slipped about on the outer surface of the pelvis, taking sometimes one and sometimes another of the four positions usually spoken of as the four forms of luxation of the hip. This in some instances happened several times, and in the two instances of failure, this change of position was all that could be accomplished. Now, it cannot be doubted that this extensive movement of the head of the bone must be attended with a corresponding amount of laceration and displacement of the tissues among which it passes, and although the mischief thus done may be confined to the areolar tissue in the muscular interspaces, still it is an injury which may add to the dangers of after-inflammation, and is, if possible, to be avoided. I suppose this can only be done by defining more accurately the precise method of procedure to be adopted in each case, so that no experimental or ineffectual trials shall have to be made, but the operator shall be able at once to do exactly what is necessary to bring the head of the bone to the point desired.

The above account had been prepared for the press, with the exception of Case 13, which has since occurred, when a case presented itself which offers some points so important in their bearing upon what has already been said, that I add the history here by itself, rather than incorporate it with the other cases.

Case 14.—Patrick Barry, aged 42, was admitted to the

New York Hospital, Oct. 23, 1854, with a dislocation of the left femur, which had occurred seven weeks previously, by a fall from a rail-car while it was in motion. The symptoms were unequivocal, the limb being shortened 1$\frac{3}{4}$ inches, the ball of the great toe resting on the instep of the sound foot, and the head of the bone being distinctly felt upon the dorsum of the ilium. The patient was a man of good muscular development, but the injured limb was somewhat wasted and flabby from inaction. Two days after admission he was put under the influence of ether, and Reid's manipulation was tried. The head descended as usual, until it came opposite to the lower margin of the acetabulum, but from that point, as the limb was brought down, it slipped on to the foramen ovale. The manipulation was repeated several times, with all care, varying the degree of abduction on the various trials, but without success. It was impossible to make the head rise over the lower border of the acetabulum so as to slip into its place. After numerous thorough and careful trials, the manipulation was abandoned and the pullies ordered to be applied. Before this was done, it was thought best to place the head of the bone on the foramen ovale, and from that point to try and reduce it by the usual method recommended by Sir Astley Cooper. The head was accordingly placed on the foramen, and while the upper part of the thigh was grasped by an assistant and lifted strongly outwards, I took hold of the ankle and made extension and adduction. The head seemed not to move at all under this force, and while making strong adduction a crack was heard, every thing became loose about the joint, and on examination it was evident that a fracture of the cervix had taken place, leaving the head in the foramen ovale. There was nothing further to be done but to put the limb up in the straight apparatus, hoping that, if we could obtain union, he would have as useful a limb as those ordinarily left by fracture of the cervix, and certainly a better limb than if the dislocation had been untouched. Thus far, Nov. 25, every thing has gone well, and promises union, with a shortening of about an inch. I am sorry that we must accept this case as one of failure of the new plan after what we considered a fair trial; for myself, however, I do most profoundly believe that it failed simply because we have not yet learned enough about the manipulation to adapt it to the condition of parts concerned in this particular instance. That we shall yet acquire that knowledge, I see no reasonable ground to doubt. With regard to the fracture of the cervix, we were all surprised at the slight amount of the force which was competent to produce such a mortifying accident. It adds double force to the caution given above, when speaking of the possibility of that accident, and it is not a little remarkable that the paragraph containing that caution was written on the very morning of the day when the production of the fracture verified the necessity of the warning. Dr. Watson, in a note to me, speaks of a fact which he says, "I have on undoubted authority, viz.: from one of the professors in the School of Medicine in Toronto, Ca., that an accident, similar to that of Case 14, occurred in that city, while the surgeon was attempting to reduce a luxation of the hip by Reid's method." Finally, it must be observed that the new plan is entitled to none of the blame of the fractured cervix. The accident took place after Reid's manipulation was abandoned, and while we were attempting the reduction according to the old established and classical method.

New York, Nov. 30th, 1854.

Art. III.—*History and Observations on Asiatic Cholera in Brooklyn, N.Y., in* 1854. By Joseph C. Hutchison, M D., late Physician to the Brooklyn Cholera Hospital; Member of the New York Pathological Society, etc.

The history of every epidemic should be chronicled soon after its termination, whilst all the attendant circumstances are fresh and readily recalled. This is especially important of Cholera, which must still be regarded as a *terra incognita* in medicine, in order that it may be compared with like epidemics, which have existed or may exist at different periods and in different parts of the world, with the view of enabling us to comprehend the laws which control it, the circumstances which favor its development, and, consequently, the means of averting its ravages.

The epidemic Cholera, of 1854, took its rise at Basorah, a town situated on the Tigris, at the head of the Persian Gulf, in 1851.* From this point it pursued its march of desolation westward through Asia, Europe, and across the Atlantic, with astonishing fidelity, in the same tracks which had already marked its passage. It reached the principal seaports of this country, New York, New Orleans and Quebec, in emigrant vessels, in the latter months of 1853. With the opening of spring, it gradually spread from New Orleans, up the Mississippi and its tributaries, through the Southern and Western States. During the winter and early spring months of 1854, emigrant vessels in large numbers continued to arrive at the port of New York, many of which had suffered severely from Cholera; and from this focus the disease spread throughout the Northern and Middle States, with the same merciless ferocity which had already made it a much-dreaded pestilence.

The present epidemic dates its commencement in New York during the last week in May, and it appeared in this city about the same time, May 29th. It is worthy of note, that in 1832 the disease manifested itself in New York 19 days, and in 1849, 18 days before it appeared here, whilst the present year it began here about the same time that it did in 1849.

For the information of those who may be unacquainted with the topography, etc., of the city of Brooklyn, it may be well to remark, that it is situated upon the western end of Long Island, opposite the city of New York, and is separated from it by a strait called the East River, which is about one mile in width. Its length, from northeast to southwest, is six miles, its greatest breadth four. The general surface is elevated from seventy to eighty feet above the level of the sea, and its hilly and stony character is indicated by its ancient name, *Breuckland*, or *broken land*. It contains a population estimated at 150,000; but since the addition of Williamsburgh and Bushwick, which has taken place since the close of the epidemic of which we write, the population amounts to 200,000, and its area has been greatly increased.

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* SMITH *On the Progress of Cholera, N. Y. Jour. of Med.,* Nov., 1854.

The subject of the first case, which occurred, as stated above, May 29th, was a respectable Irish female, aged 43 years, in comfortable circumstances, and of prudent habits, but residing in a filthy neighborhood, at 255 John street (5th ward). She had not been absent from home, nor had she been exposed, by direct contact, to the disease. The second case was reported June 3d, at 340 Atlantic street, (10th ward,) a comfortable and airy part of the city, and distant from the first about one and a half miles. The victim was a respectable gentleman, an agent for the Long Island Railroad Company, who was subject to disorders of the bowels, but had not, in any way, been exposed to Cholera. The third and fourth cases occurred on the 9th; one at 26 Water street (2d ward), and the other in Columbia street, near Kelsey's alley (6th ward). On the 11th four cases were reported; one in Willow street, near the 3d, and the others in the neighborhood of the corner of Water and Jay streets (5th ward). A number of other cases soon after occurred in this part of the city. The above cases all terminated fatally; they had no connection with each other, and, with the exception of the second, they occurred amongst the lower classes of foreign population inhabiting filthy localities along the borders of the East River.

As the history of the former epidemics of Cholera in Brooklyn has never been written, it has been thought that the following tables, exhibiting the weekly mortality, the number from each ward, with the ages and nativity, during the epidemics of 1832 and 1849, as well as of the present year, might prove interesting for the purposes of reference and comparison. The statistics have been obtained through the courtesy of Dr. Wendell, Health Physician, who has kindly allowed me access to the archives of the Health Office. In 1832 there were no deaths reported except those from cholera:

1832.				1849.						1854.					
Week ending.	Cholera.	Week ending.	Cholera.	Week ending.	Total Mortality.	Cholera.	Week ending.	Total Mortality.	Cholera.	Week ending.	Total Mortality.	Cholera.	Week ending.	Total Mortality.	Cholera.
July 14	4	Sep. 1	24	June 2	4[illegible]	5	Aug. 4	181	100	June 3	79	1	Sep. 2	162	35
" 21	12	" 7	17	" 9	38	4	" 11	188	98	" 10	50	3	" 9	140	31
" 28	50	" 15	14	" 16	41	8	" 18	175	90	" 17	57	15	" 16	128	14
Aug. 4	34	" 22	9	" 23	52	10	" 25	128	46	" 24	66	14	" 23	106	10
" 11	35	" 29	6	" 30	78	19	Sep. 1	84	26	July 1	79	24	" 30	102	11
" 18	38	Oct. 6	5	July 7	70	30	" 8	67	18	" 8	110	54	Oct. 7	85	4
" 25	25	" 13	1	" 14	88	47	" 15	66	7	" 15	220	80	" 14	80	...
				" 21	169	76	" 22	41	4	" 22	233	[illegible]	" 21	63	4
				" 28	116	52				" 29	260	94	" 28	87	2
										Aug. 5	263	73	Nov. 4	74	3
										" 12	192	55			
										" 19	206	50			
										" 26	185	28			
Total......			274	Total..........				1624	650	Total.........				3037	678

It is seen, in the above table, that the disease rushed more rapidly to its climax in 1832 than in the succeeding epidemics. In 1849 it reached its height during the tenth week from its commencement. This was also true in New York, Boston, and Philadelphia.* The recent epidemic here arrived at its acme during the ninth week of its prevalence, whilst in New York its period of greatest intensity was during the tenth week, as in 1849.

Meteorological Phenomena.—The following meteorological observations, made during the recent "Cholera season," are derived from the *New York Medical Times*, and from the very complete records of Dr. James M. Minor, of this city:

Mean Temp. for the 4 weeks ending June 24, 70°; average for same time last 8 years,.... 69½°
Inches of rain " " " 2·4; " " " " 3 5
Mean Dew point below air Temp. " 14°.
Mean Temp for the 4 weeks ending July 22d, 76°; average for same time last 8 years,.... 74½°
Dew point below air Temp " " 14°.
Inches of rain in July,......................... 1 71.
Mean Temp for 5 weeks ending August 26,.. 76°; average for same time last 8 years,.... 73·8°
Dew point below air Temp. " " 17°.
Inches of Rain. " " 1·25; average for same time last 8 years,.... 4 1
Mean Temp. for 4 weeks ending September 23, 71°; " " " " 67½°
Mean Dew point below air Temp. " 11 3-5°.
Inches of Rain " " " 2½; same time last year,................. 5½
Mean Temp for 4 weeks ending October 21,. 61°; average for same time last 8 years,.... 59°
Dew point below air Temp. " " 13°; same time last year,................. 13½°
Inches of Rain " " " 1 1-20; mean for last 8 years,................2 1-10
Mean Temp. for the 4 weeks ending Nov. 18th 49½°; " " " .... 49°
Dew point below air Temp. " " 9°; 8½°
Inches of Rain " " " 4½; " " " 3½

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* See *New York Jour. of Med.*, Nov., 1849.

It is thus seen that the atmospheric temperature, during the recent epidemic, was above the average for the last eight years. The excessive dryness of the season is also worthy of note. The spring months were very wet, 11·12 inches of rain having fallen in April, and 5·43 in May, according to Dr. Minor.

In the records of the Health Office, for 1849, the only fact which can be obtained, in relation to the ages of persons who died of Cholera, is, that 150 were children and 500 adults. From this we may infer that the chief mortality occurred, as usual, in the meridian of life.

1832.						1854.					
Ages of persons who died of Cholera.	Males and Females	Per cent.	Ages of persons who died of Cholera.	Males and Females.	Per cent.	Ages of persons who died of Cholera.	Males and Females	Per cent.	Ages of persons who died of Cholera.	Males and Females	Per cent.
Under 10 yrs	44	16·06	From 50 to 60	21	7·66	Under 5 yrs	40	5·90	From 40 to 50	108	15·91
From 10 to 20	18	6·57	" 60 to 70	16	5·84	From 5 to 10	26	3·83	" 50 to 60	70	10·32
" 20 to 30	40	14· 6	Over 70	11	4·01	" 10 to 20	55	8·11	" 60 to 70	33	4·86
" 30 to 40	78	28·46	Unknown	6	2·19	" 20 to 30	144	21·38	Over 70	12	1·77
" 40 to 50	40	14· 6				" 30 to 40	172	25·37	Unknown	18	2·65
Total				274		Total				678	

The above tables coincide with what is usually observed of Cholera—that it selects for its victims more especially those who have attained to vigorous manhood.

The 11 wards in the following table represent the city of Brooklyn as it was before the consolidation of Williamsburgh and Bushwick with it, since which time the 6th ward has been divided and others added. It should also be remarked, that the table exhibiting the mortality in the different wards, in 1849, is not compiled from returns actually made to the Health Office, but is based on the number of cases furnished by the different wards to the Cholera Hospital, which, judging from the relation which exists between the number of cases sent from each ward to the hospital, and the total number of deaths in each ward for the present year, may be regarded as very nearly correct.

1832.	1849.				1854.			
No. of deaths in each Ward.	No. of deaths in each Ward.	Per cent.	No. of deaths in each Ward.	Per cent.	No. of deaths in each Ward.	Per cent.	No. of deaths in each Ward.	Per cent.
The village was not at this time divided into Wards. Most of the population resided in what is now known as the 1st, 2d, and 5th Wards, and the disease chiefly prevailed there.	1st W'd 140	21·53	8th W'd 12	1·84	1st W'd 11	1·62	8th W'd 36	5·30
	2d " 70	10·76	9th " 10	1·53	2d " 59	8 74	9th " 27	3·98
	3d " 10	1·53	10th " 90	13 77	3d " 8	1 17	10th " 42	6·19
	4th " 10	1·53	11th " 96	14·76	4th " 20	2·94	11th " 57	8·55
	5th " 30	4·59			5th " 103	15 19	Vessels in Port .. 2	0 29
	6th " 175	26 92			6th " 234	34·49	Unkno'n 32	4·71
	7th " 7	1 07			7th " 47	6·93		
Total 274	Total 650				Total 678			

The value of the above table would have been very much increased, if we could have given, in addition, the area and the population of each ward, but this could not be obtained in time for the present purpose. It is well known, however, that the disease chiefly prevailed in the unhealthy localities along the water-front of the city, amongst a degraded class of population, who are closely packed in the ill-ventilated apartments of tenant-houses, or in shanties in the suburbs, with goats and pigs, inhaling noisome miasms instead of the pure air of heaven, and subsisting on food insufficient in quantity and of inferior quality.

The mortality in the 1st ward, in 1849, occurred principally in Furman street, which runs along the water-edge, at the base of the "Heights," and is inhabited by the lower classes.

1832.		1849.		1854.			
Nativity.	Per cent.	Nativity (of persons admitt. into the hospital).	Per cent.	Nativity.	Per cent.	Nativity.	Per cent.
Unit. States 166	60·69	Unit. States . 15	11·54	United States 135	20 00	Wales 2	0·3
Ireland 63	23·00	Ireland 100	76·92	Ireland 408	60·18	Portugal. 1	0·15
England 26	9·49	England 3	2· 3	England..... 38	5·60	Saxony 1	0 15
Scotland 4	1·46	France 1	0·77	Germany 31	4·57	France 1	0 15
France 2	0·72	Germany 10	7·69	Scotland 14	2·06	Italy 1	0·15
Germany 2	0·72	Unknown ... 1	0·77	Holland 4	0·59	Switzerland .. 1	0·15
West Indies. 1	0·36			Prussia 4	0·59	Unknown 31	4·57
Brit. Possess. 1	0 36			Sweden 3	0·44		
Unknown 9	3·25			Brit. Possess. 3	0·44		
Total 274		Total 130		Total 67			

Notwithstanding the Board of Health adopted stringent measures to compel the prompt report of all cases of Cholera that occured in the city, it is very well known that many physicians, as during the former epidemics, reported only those cases that died or that they supposed would die. It is impossible, therefore, to ascertain accurately the whole number of cases that occured.

The comparative extent of the disease, in '32, '49, and '54, is shown in the following table.

1832.			1849.			1854.		
Population.	Deaths	Ratio of deaths to population.	Population.	Deaths.	Ratio of deaths to population.	Population.	Deaths.	Ratio of deaths to population.
17,000	274	1 in 62	90,000	650	1 in 138½	150,000	678	1 in 221¼

After the above preliminary statistical details of interest in the general history of Cholera, I will recur to the particular facts relating to the recent epidemic.

The approach of Cholera this year was not heralded by the general appearance of mild affections of the bowels, which preceded for a short time the appearance of the former epidemics. Indeed, this fact was so obvious as to induce the impression generally amongst physicians, in the early part of the season, that the disease would not assume an epidemic character, and the necessity of opening a Cholera hospital was questioned by some. The allied diseases of the bowels increased nearly *pari passu* with Cholera, until it reached its climax, and gradually declined with it. In the latter respect it differed widely from the last epidemic. It was observed here, in 1849, as well as in New York, Boston, and Philadelphia, that the cognate diseases did not decline (as they had increased) in the same ratio with Cholera, and dysentery followed it in an epidemic form. *(See N. Y. Jour. of Med., Vol. III., p. 414, New Series.)*

It is often asserted that, when Cholera prevails as an epidemic, all kindred diseases are swallowed up by it; but this was not true in Brooklyn, as above stated; nor was it true in the other principal cities of this country, as will be seen by examining the valuable tables contained in the Journal just referred to. On the contrary, the other diseases of the bowels were positively increased, under the influence, perhaps, of the same specific cause which produces Cholera. This is further shown by the following table, compiled from the valuable "Semi-Centennial Table of Mortality in New York," which has been lately issued from the Office of the City Inspector:

Disease.	First Period.			Second Period.			Third Period.	
	1831.	1832.	1833.	1848.	1849.	1850.	1853.	1854.
							First 11 months.	
Cholera	....	3613	....	2	5071	57	21	
Diarrhœa	142	104	55	432	783	437	652	
Dysentery	156	136	87	739	1256	792	742	
Cholera Morbus..	....	93	10	43	241	44	71	
Cholera Infantum	1.2	334	129	505	926	713	916	

CHOLERA IN THE HOSPITAL IN 1854.

On the 26th of June a Cholera hospital was opened in Lafayette avenue, and its medical department placed under the supervision of the writer. It was closed September 30th. During this period 170 persons were admitted: in June, 7; in July, 83; in August, 56; in September, 24.

The following table exhibits the condition of the patients on admission, the number died and discharged, and the per centage:

Condition when admitted.	Admitted.		Died.		Discharged.		Total.			Per centage.	
	Male.	Female.	Male.	Female.	Males.	Female.	Admit.	Died.	Disch.	Died.	Disch.
First Stage	8	10	--	--	8	10	18	--	18	.....	100·
Partial Collapse ..	10	7	1	--	9	7	17	1	16	5·88	94·12
Complete Collapse	45	55	37	45	8	10	100	82	18	82·00	18·00
Consecutive Stage.	6	3	2	3	4	--	9	5	4	55·55	44·44
Other diseases	16	10	5	4	11	6	26	9	17	34·61	65·39
	85	85	45	52	40	33	170	97	73	57·06	42·94

Of the 82 deaths occurring amongst those admitted in complete collapse, 23, or 28 per cent. reacted and died of consecutive diseases, which are analyzed in the following table:

Persons admitted in complete collapse.	Per cent.	Persons admitted in complete collapse.	Per cent.
Died in collapse..................59	71·95	Died with dysentery 5	6·1
" with congestion of brain..10	12·2	" " other diseases........ 4	4·9
" " consecutive fever..... 4	4·9		
		Total........82	

A majority of the cases put down as having died from congestion of the brain, also had prolonged suppression of urine, and it is not improbable that the affection of the brain was owing, to some extent at least, to the poisonous influence of urea. The dysenteric affection was of a peculiar character. The evacuations consisted, in many cases, of almost pure blood, which had a bright, fresh appearance, and was discharged without the tormina and tenesmus which usually attend the disease. This affection was most prevalent toward the close, whilst consecutive congestion of the brain was chiefly confined to the early part of the epidemic.

It is proper to remark that cases admitted with diarrhœa, which might have terminated in Cholera if they had not been treated, are included under the head of other diseases; and those admitted in *articulo mortis,* amounting to a considerable number, are put under the head of complete collapse. The small per centage of deaths amongst those admitted before extreme collapse was reached, amounting to 1 in 35 cases of well-marked Cholera, or 5·88 per cent., strikingly illustrates the importance of early treatment.

The great number admitted in complete collapse is owing, in some degree, to the distance that many were brought; a large proportion coming from a remote section of the 6th ward, having left home, perhaps, in a condition that was curable, if they could have had suitable medical attention and proper hygienic influences surrounding them. The jolting over rough pavements whilst laboring under a formidable disease, in which the utmost quietude should be observed, contributed materially to increase its intensity. Most of those admitted with consecutive and other diseases were in a condition by no means favorable for their recovery.

SYMPTOMS AND PHENOMENA.

Without entering into a detail of the symptoms presented by the Cholera of 1854, in this city, which, in its general character, coincides with the usual descriptions of the disease, it may be well to call attention to such observations as are deemed of particular interest.

Evacuations.—In about one-fourth of the cases in which vomiting was noted, there was discharged a greenish fluid, resembling a solution of sulphate of iron. It was sometimes acid, and at other times neutral, and in no case examined was the presence of bile indicated by the usual tests. It was observed in 21 cases, of which 15 were females, and 3 died, 6 were males, of which 2 died. In all cases that vomited the character of fluid in question, the emesis was obstinate and prolonged, continuing in some cases almost incessantly for two or three days. The discharges from the bowels were usually of the rice-water character; but in 36 cases out of 93, in which it was particularly noted, the dejections were of a thin yellow or mahogany color, and such cases were much the most likely to terminate fatally. Not the slightest trace of albumen was indicated, by heat, nitric acid, or ferrocyanide of potassium, in any discharge examined; fibrine was also absent, and instead of being invariably alkaline, as is often asserted, they gave, in many instances, a decidedly acid reaction. An abundant precipitate of chloride of sodium was thrown down by nitrate of silver, which was redissolved by the addition of ammonia.

Contraction of the Pupils was observed in a large number of cases, and was regarded as a sufficient reason for an unfavorable prognosis, although the other symptoms may not have been very alarming. It was observed often, independently of any other evidence of cerebro-spinal disorder.

Cramps were present, more or less, in a great majority of cases, but they were less violent and persistent than in 1849. Indeed, in no instance were they so excruciating and prolonged, as was frequently seen from the very commencement of the evacuations, in an epidemic at that time witnessed by the writer in the Mississippi valley—an epidemic, I may remark *en passant*, which has been rarely equaled and never exceeded in malignity by any that has prevailed on this Continent; 9·2 per cent. of the population within its range having fallen victims to its ravages.*

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* See Report on Cholera by the writer—*St. Louis Med. and Surg. Journal*, Nov., 1853.

The Mammary Secretion formed an exception to the general suppression of the secretions; this was also observed by Dr. Buel, in the epidemic of 1849. Two females with nursing infants were brought to the Hospital, one of which supplied her child with nourishment, until she was so prostrated with the disease that she could no longer attend to it; in the other case, the infant was removed from the mother soon after admission, and particular attention was necessary in order to prevent the development of a mammary abscess.

Copious Diaphoresis occurred in only 8 cases. Singultus was noted in 4 cases, all of which recovered; and the catamenia appeared in 3 cases as soon as convalescence began—in one for the first time.

Hour of Attack and Death.—The hour of attack was ascertained in 79 cases, and the exact hour of death noted in 73 cases, as seen in the following table. The hour of attack given is the period assigned by each individual at the commencement of his illness, and may not, therefore, be strictly correct; for certain individuals, unwilling to believe they were suffering from Cholera, might date the period of attack some time subsequent to the actual invasion. And for the same reason, the duration of the disease may not have been accurately ascertained.

	A. M.													P. M.												
Hour of attack...	1	2	3	4	5	6	7	8	9	10	11	12	Total.	1	2	3	4	5	6	7	8	9	10	11	12	Total.
No of pers's.	2	4	2	2	9	5	1	7	5	4	3	11	55	0	1	5	3	2	2	1	0	3	4	2	1	24
Hour of death	1	2	3	4	5	6	7	8	9	10	11	12	Total.	1	2	3	4	5	6	7	8	9	10	11	12	Total.
No of pers's.	1	2	4	2	2	1	0	3	2	3	3	4	27	2	2	8	2	5	5	5	5	3	5	2	2	46

The duration of the disease was ascertained in 94 cases. In 41 cases, not fatal, the average duration was 54·83 hours; the shortest 16 hours and the longest 14 days. In 53 fatal cases, the average duration was 48 hours; the shortest 4 hours, the longest 17 days. The duration of the disease was influenced by the peculiar nature of the secondary affections, as well as the age and constitutional peculiarities of individuals.

Is Cholera contagious?

It does not comport with the purpose of this article to enter into a discussion of the question of contagion; in the present state of science it must remain undecided. It is sufficient to state here, that no striking evidence of personal communicability was observed in the recent epidemic. That Cholera cannot be communicated by *inoculation* would seem to be very well settled by the courageous experiments of certain French and Polish physicians, which consisted in tasting the effused liquids, and inoculating themselves with the blood of patients who subsequently died with the disease. Schmidt states that, within his own knowledge, a drunken man by mistake swallowed half a beer glass of the vomited matters, slept away his drunken fit, and remained well.* It is also well known that ineffectual attempts have been made to communicate the disease to the inferior animals, by injecting fresh Cholera blood and the rice-water fluid into their veins. The *portability* of Cholera is also very well established, by a large amount of evidence already familiar to the profession.

Is Cholera invariably preceded by Premonitory Diarrhœa?

In a pamphlet on this subject, recently issued from the London press by David Macloughlin, M. D., it is stated, as the result of an investigation into the previous state of health of 3,902 cases of Cholera in 1849, also a number of cases in 1848 and 1832, as well as in the epidemic of 1853–4, in London, "that in every case of Cholera, a diarrhœa for a *few hours*, or for a *few days*, or for a *few weeks* precedes and gives the patient warning that an attack of spasms, vomiting, etc. —that an attack of Cholera, in fact—is coming on." A similar opinion had been long entertained by many persons, and it is now becoming more general. Its correctness, however, with proper deference to the opinions of others, I must call in question. In the hospital the inquiry was always made, and in the case book it is recorded, in a number of instances, that premonitory diarrhœa had not existed. This record was made on the statements of the patients or their friends, without having my attention very specially directed to the question; but after having seen the unconditional and unequivocal opinion expressed by Dr. Macloughlin, it occurred to me, that a more searching inquiry into those cases might have resulted in the confirmation of his views, and it was determined whenever, in any subsequent case, it was stated that there had been no premonitory diarrhœa, that every available source of information would be used to ascertain the facts. The result of the investigation shows that, in six unequivocal cases, premonitory diarrhœa did not exist. These cases are given below, with a synopsis of the leading symptoms, indicating that they all had Cholera.

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* *Report on Cholera to the Royal College of Physicians*, p. 122. London: 1854.

CASE 1.—*Admitted September 1st*, 1854. Sarah Y., aged 33, attacked with vomiting and purging a "thin, watery fluid," at 7 o'clock this morning, and cramps half an hour subsequently. She states that she felt perfectly well up to this time, and had no premonitory diarrhœa, which was further confirmed by the testimony of her husband. *Symptoms*—Vomiting and purging, excessive thirst, livid appearance of the face, thready pulse, skin cool and covered with a clammy perspiration, suppression of urine. Death in 27 hours.

CASE 2.—*Admitted September 2d*, 1854. Sarah J. Y., daughter of preceding patient, aged 8 years, attacked at 1 o'clock this morning, with severe vomiting and purging. By careful inquiry of herself and father, it cannot be ascertained that premonitory diarrhœa had existed. *Symptoms*—Vomiting and purging, intense thirst, cold and cyanic state of the skin, feeble circulation, husky voice, and suppression of urine—no cramps. Death in 66 hours, from congestion of the brain.

CASE 3.—*Admitted September 2d*, 1854. Julia R., aged 22, went to bed perfectly well last night, slept soundly, and was attacked with vomiting and purging a watery fluid, and cramps in the stomach at 6 o'clock this morning. *Symptoms*—Vomiting, purging, feeble voice and circulation, lower extremities cold, blueness of the surface, and suppression of urine. When admitted, and after her recovery, she stated positively that she had had no liquid discharges before the hour above mentioned.

CASE 4.—*Admitted September 3d*, 1854. Thomas O., aged 44, went to bed last night, slept as well as usual, and was awakened at 5 this morning with an inclination to vomit and purge, which soon after commenced. Cramps were developed at 6. *Symptoms*—Vomiting and purging, intense thirst, voice whispering, skin cold, clammy, and corrugated on the fingers, cramps, partial suppression of urine. Death in 35 hours.

CASE 5.—*Admitted September 16th*, 1854. Ellen M., aged 29, went to bed well last night, slept soundly, and arose, feeling as well as usual this morning. At 8 o'clock, violent vomiting and purging came on, and cramps at 9. On careful and minute inquiry, no evidence could be elicited that previous diarrhœa had existed. *Symptoms*—Vomiting, purging, thirst, skin cold and blue, suppression of urine. Death in 25 hours.

CASE 6.—*Admitted September 22d*, 1854. Margarette M., aged 36, having felt and slept well the preceding night, was attacked with vomiting and purging at 5 yesterday morning, and cramps at 6. She was carefully interrogated when admitted, and again after her recovery, but no evidence that she had liquid discharges prior to the onset of Cholera could be elicited. *Symptoms*—Vomiting and purging of rice-water fluid, thirst, feeble voice, skin cool, suppression of urine, cramps.

The sudden development in the above cases of severe vomiting and purging, and in one case (No. 3) cramps in the stomach also, followed by the more characteristic algide symptoms, afford unmistakable evidence that they were struck down, from perfect health, at once, by Cholera. The patients not only felt well, slept well, and ate as usual, but, on the most careful inquiry, it was ascertained that nothing like a diarrhœa—no liquid discharges had preceded the severe attack. In two instances (Nos. 1 and 2), we have the additional evidence of the husband and father, and in Cases 3 and 6 of the patients again after recovery; and surely they could have had no motive for deceiving.

The writer has examined the pamphlet of Dr. Macloughlin, repeatedly, and with much care, in order that his views might be fairly presented, and the impression has been left, that he regards no case as Cholera until spasms commence, and certainly not until vomiting is developed. If this be his interpretation of Cholera, premonitory symptoms are certainly rarely absent; and even admitting his definition to be correct, we have an exception to this *invariable rule*, in Case 3, in which vomiting, purging, and *cramps* were developed simultaneously without any warning diarrhœa. But I imagine there are few physicians, who have seen much of Cholera, that have not occasionally met with cases in which spasms and even vomiting were absent during the whole course of the disease. Abundant evidence from generally recognised authorities might be adduced, in proof of this statement, if it was deemed necessary.

POST-MORTEM APPEARANCES.

One of the most astonishing phenomena presented by Cholera, which has been strongly attested by various writers, is the rise of animal heat that takes place soon after death. It is, however, not peculiar to Cholera. Cruveilhier observed a rise of temperature after death from asphyxia; *Anatomie Pathologique, livre* 16*me, p.* 35: similar observations were made by Dr. Dowler, in Yellow Fever; *Experimental Researches, &c.*, New York, 1846: and Briquet and Mignot observed the same in peritonitis, pneumonia, &c.*

The following table contains a record of observations made by the writer, of the rise of temperature after death from Cholera, as indicated by the thermometer.

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* *Report on the Morbid Anatomy of Cholera, to the Royal College of Physicians*, p. 7. London: 1854.

Case.	Age.	Sex.	Time of observation before death	Temperature.		Time of death.	Time of observation after death.	Temperature.		Remarks.
				Body.	Atmosphere.			Body.	Atmosphere.	
1	33	Male	9 h. A. M.	Very decided coldness of surface.	79°	2 h. 30 m. P. M.	8 h. P. M.	Axilla, 90° Perineum, 93° Over the heart, 90° Toes, 83° Fingers, 85°	74°	*Rigor mortis* well marked.
2	18	Female	July 6th, 10 h. 30 m. P. M.	Axilla, 92° Calf of leg, 87° Side of abdomen, 49° Vulva, 49° Mouth, 78°	80°	July 7th, 1 h. P. M.	5 h. 30 m. P. M.	Side of chest 94°	85°	
3	24	Female	July 9th, 11 h. P. M.	Coldness very marked	73°	July 10th, 8 h. P. M.	8 h. 30 m. P. M.	Mouth, 81° Axilla, 81° Vagina, 91° Lower extremities 72°	75°	
4	45	Female	July 27th, 4 h. P. M.	Hand, 80° Foot, 63° Side of chest 100°	84°	July 28th, 6 h. 30 m. A. M.	8 h. 30 m. P. M.	Hand, 83° Foot, 78½° Side of abdomen, 88°	74°	*Rigor mortis* well marked.
5	36	Female	10 h. A. M.	Surface quite cold.	80°	7 h. P. M.	10 h. P. M.	Pelvic Cavity, 104°	74°	
6	30	Female	11 h. 30 m. A. M.	Coldness very decided	86°	3 h. P. M.	4 h. P. M. 9 h. P. M.	Axilla, 104° Pelvic Cavity, 107°	87° 80°	

It is usually stated that the warmth vanishes when cadaveric rigidity commences, but this was not true in all cases, as is seen in the above table; the rigidity lasts also for a long time. The cause of this remarkable phenomenon has not been satisfactorily explained.

Muscular contractions.—The well known automatic movements of the body which take place after death, were noted in four cases; in one of which it is known that there had been no spasms during the six hours he was in the hospital, and probably for a much longer time. The movements of the hands and feet continued, in one case, for an hour after life was, to all appearance, extinct, and greatly alarmed the friends of the patient, who were unwilling to believe that he was yet dead.

The whole number of autopsies amounted to about twenty, but only five, that were complete, were recorded, two of which died in collapse, and three from consecutive diseases. There were three males and two females, the youngest 22 and the oldest 45. I am indebted to Dr. Louis Bauer, of this city, for valuable assistance in conducting some of the autopsies.

External appearances.—The skin, in all cases, was more or less livid, but this was more marked in those that died in collapse. *Rigor mortis* well marked—when death occurred in the algide stage, excessive.

Head.—*Sinuses* and *membranes* of the brain preternaturally loaded with fluid blood, and there was more or less subarachnoid effusion of clear or reddish fluid; in one case—death from consecutive gastro-enterite—after four days' duration of severe symptoms, the arachnoid, where it passes over the sulci, was raised by air, which escaped when the membrane was punctured. The ventricles contained an unusual quantity of fluid, less in those that died in collapse, sometimes clear, and at other times bloody. The *substance of the brain*, both medullary and cortical, was softened in one case, in which the duration of severe symptoms was twenty-five hours, and death occurred, with symptoms of cerebral congestion, after partial reaction. In the remaining cases, it was normal in vascularity and consistency.

The *lungs* were engorged with dark fluid blood, in a majority of cases, especially at their lower and posterior part. In one case, the congestion, although considerable, did not exist in a corresponding degree in the other organs. In two cases the lungs were collapsed, and in some cases the surface presented spots of ecchymosis.

The *pericardium*, in three cases, contained a drachm or two of serous fluid, which was, in one case, tinged with blood; its surface was covered with a sticky fluid, in another. The *substance of the heart* was flaccid in two, and firm in three cases, and it was engorged, in common with other organs. In one case—death in collapse—the right cavities and the left ventricle were excessively distended with fluid blood, as black as ink. This was the case in which the congestion of the lungs was not so marked as in other cases. In three cases, one of which died in collapse, fibrinous clots were found in the right cavities, with a few fragments of fibrine in the left ventricle of one subject, and a large quantity of dark fluid blood in all the cavities. In one case, the ventricles contained a small quantity of dark fluid blood, with some soft coagula.

The *liver*, in two cases, was greatly enlarged, its left lobe extending into the left hypochondrium. It was normal in two cases, and in one case its surface and substance was unusually pale.

The *gall bladder* was distended, in three cases, with dark green bile, in one case, with a pale green fluid, and in the subject which had so pale a liver, it was distended with two gall-stones, composed of cholesterine, with a nucleus of inspissated bile.

The *stomach*, in one case fatal in the algide stage, was perfectly healthy. In three cases, the mucous membrane was ecchymosed in large spots, thickened, and, in one case, softened, near the pylorus. In one case, death from consecutive gastro-enterite, the capillaries were highly injected, especially towards the pylorus, giving the whole surface a bright red appearance.

Small intestines.—In one case fatal in the cold stage, the mucous membrane of the jejunum and ileum was highly injected, and of a bright red color throughout its whole extent. It was normal in two cases, one of which died in the cold stage, and marked with spots of ecchymosis in another. In a case of consecutive gastro-enteritis, the whole mucous membrane was highly injected of a bright red color.

The mucous membrane of the *large intestines* was healthy in one case, marked by ecchymosed spots in three cases, and in one case in which death occurred in collapse, it was thickened and ecchymosed in the sigmoid flexure and descending colon.

Peyer's glands were enlarged in two cases, in one of which death had occurred in the cold stage. *Mesenteric glands* enlarged and hyperæmic in one case.

The *spleen* and *pancreas* were usually not altered.

The *kidneys*, with the exception of the engorgement common to other organs, were healthy in four cases. In one case, a fluid resembling pus, was observed to issue from the calices when exposed.

The *bladder* was filled with urine in one case that died of consecutive fever, empty and contracted in four cases; and in all the examinations that were made, it is distinctly remembered that the bladder was contracted and empty when death occurred in the cold stage.

The *peritoneum* was usually drier than natural, and covered, in some cases, with an adhesive fluid. In one case it is recorded, and in several others it is distinctly remembered, that the peritoneal surface of the alimentary canal presented a very pale, almost blanched appearance—a condition which has been faithfully represented by Pirogoff, in his *Anatomie Pathologique du Cholera Morbus*, *Tab.* 1. *Atlas. St. Petersburg*, 1849.

The condition of the *female sexual organs* was recorded in twelve cases. In five cases there was ulceration surrounding the os, with a bright red or dark and roughened appearance of the mucous membrane lining the cervix, body, and fundus uteri. Sometimes the lining membrane presented the appearance of having been macerated in water. In three cases, a tenacious, bloody mucus issued from the os, and also covered the internal surface of the uterus, from which it was with difficulty removed. In three cases, the canal of the cervix was marked by longitudinal fibres, the *arbor vitæ* being entirely obliterated. The *ovula Nabothi* were frequently found distended with a pearly fluid. The ovaries often contained watery cysts, and the Graafian vesicles were sometimes filled with blood. The vagina presented an ecchymosed appearance, and, in two cases, it was extensively ulcerated.

Physical condition of the blood.—In all cases the blood was tenacious, of a dark color, with little disposition to coagulate in the arteries as well as veins. In one case, death in cold stage, the blood was as black as ink, and no coagula were found in the body; in three cases, one of which died in collapse, fibrinous coagula were observed in the heart. On exposure to the oxygen of the air, the blood gradually assumed a brighter hue, but more slowly and less deeply than normal blood: it did not coagulate spontaneously out of the body.

Such is a rapid survey of the leading facts connected with the *post mortem* examinations of Cholera; few of them can be regarded as characteristic, or as necessary consequences of the disease. All observers admit that the most constant pathological condition is the lesion of the blood, which, as we have seen, is dark and fluid and less coagulable than in other diseases.

In a recent discussion at the N. Y. Pathological Society, a distinguished professor expressed the opinion, that the characteristic lesion in Cholera was inflammation of the alimentary mucous membrane. In many cases it is true that the gastro-enteric mucous membrane is highly injected and presents an inflammatory appearance, but it is not marked by the sequellæ of inflammation. Moreover, the well known experiments of Magendie, instituted in 1832, which were repeated by M. Contour, in connection with Professor Siewruck of Moscow, have satisfactorily shown that the redness is not inflammatory, but is owing merely to a venous *stasis* of the blood. These experimenters found, by injecting water into the intestinal arteries, that the blood gave place to the injected fluid, and the intestine became as clear and white as if it had never been discolored. This would not have been the case if the organic changes, which occur in inflammation, had been present. Another and fatal objection to the foregoing opinion is, that the alimentary mucous membrane is often found perfectly healthy when death occurs in the cold stage. This, it will be remembered, was the case in one of the subjects examined by the writer. The intestinal glands also in some cases are perfectly healthy, and in others preternaturally developed. Did the limits of this article permit, it might be shown, that the phenomena of the disease during life do not point to inflammation as the pathological lesion, except as an accidental complication.

TREATMENT.—The most valuable experience derived from the observation of the recent epidemic is, that Cholera patients should be disturbed by remedies as little as possible. And whenever, in any case, we are at a loss to know what treatment to adopt, or if we find the patient growing worse under the influence of remedies that we think best adapted to the case, the better plan is to rely on the *vis medicatrix naturæ.* This I have repeatedly done with much satisfaction; patients in the deepest collapse having reacted without any treatment—in one case without even ice, beef-tea, or external applications.

Whenever, in any stage of the disease, nausea or vomiting was present, an emetic dose of common salt was first administered, and repeated, if necessary, until vigorous emesis was produced, differing from the vomiting of Cholera, which resembles more a simple regurgitation, attended with little or no effort. Undigested food was frequently discharged, which had remained in the stomach sometimes for 24 hours, notwithstanding the Cholera vomiting had persisted during the whole time. The operation of the emetic usually relieved the vomiting, and when it failed, all other remedies commonly used for the purpose, including large doses of calomel, creosote, aromatics, effervescing draught, narcotics and external applications, were equally inefficient.

When the vomiting proved obstinate, nothing but lumps of ice and teaspoonful doses of beef-tea were allowed, and frequently even these were withdrawn, and the patient permitted to remain unmolested by any kind of treatment, for 12, 15, or 20 hours, with the most satisfactory results, even when there was great depression of the circulation, the skin cold and cyanosed, and the rice-water purging continuing. Indeed, whenever vomiting was a marked symptom, a favorable termination was anticipated. After the operation of the emetic, one grain doses of calomel were given every hour, sprinkled on the back of the tongue and washed down with water; the discharges, especially when of the rice-water character, would gradually become less frequent, and bilious matter usually appear in them in 12 or 15 hours. Small doses of calomel were used, because they answered the purpose without the disturbing effects which might arise from inordinate doses. Even the small doses of calomel were often followed by bilious diarrhœa, sometimes of a troublesome character, after the subsidence of the Cholera discharges; and it undoubtedly would have been a much more frequent and obstinate symptom, if larger doses had been used.

Ice and iced barley-water were sufficiently indicated by the intense thirst, and the obvious requirements of the system. The quantity was regulated by the condition of the stomach and the effects following their use. If vomiting was present, or if it seemed to be provoked by them, the quantity was diminished or entirely prohibited, as already stated.

Beef-tea was often used for keeping up the failing powers of the system, and supplying nourishment in a concentrated form. The quantity required will not disturb the stomach by its bulk.

An epispastic was usually applied over the abdomen, and rest in the horizontal position was always enjoined. Cramps, when mild, could be relieved by forcibly extending the contracted muscle, and when severe, which rarely occured, they were promptly relieved by inhalations of chloric ether. The hot-air bath was regarded as a valuable adjuvant.

In the treatment of the consecutive diseases which so often followed recoveries from collapse, we were guided by the pathological indications as under other circumstances, bearing in mind the depressed condition of the vital powers.

Such is a summary of the treatment found most beneficial in the Brooklyn Cholera Hospital. It was varied, of course, according to the stage of the disease, constitutional peculiarities, etc. During the course of the epidemic, a great variety of remedies were prescribed. At first stimulants were freely given in collapsed cases, because they *seemed* to be indicated; but I soon became convinced that they were of no use, if not positively detrimental.

Saline injections into the veins was practiced in five cases, but with only transitory benefit. It should be remarked, however, that all the cases in which it was tried had been for some time in extreme collapse, so that the value of the treatment cannot be regarded as having been fairly tested. And I cannot resist the conviction, that a treatment which produces such decided temporary benefit, such as arousing the patient from a profound lethargy, so that he looks and speaks intelligibly, restoring the activity of the circulation, improving the color and warmth of the skin, and, indeed, his whole appearance, may yet prove of immense value. The operation is a delicate one, and there are many nice points connected with it to be considered; such as the best method of introducing the liquid, the proper composition, temperature, specific gravity, quantity, and rapidity with which it should be introduced. When all these points are settled by experiment, which it is hoped the want of success hitherto will not discourage, we may, peradventure, be enabled to save the lives of many patients who would otherwise die.

The injected fluid consisted of three drachms of chloride of sodium and one drachm of alcohol in a pint of water, of which two pints were introduced into the median basilic vein, at a temperature varying from 100° to 115° Fahrenheit, and repeated when the algide symptoms reappeared. In some cases the solution of salt alone was injected, but its beneficial effects were less obvious.

The following composition, given in Dr. Gull's valuable report,* was also used in some cases:

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* *Reports on Epidemic Cholera to the Royal College of Physicians*, London, p. 214.

Chloride of Sodium,	60	parts	by weight.
" Potassium,	6	"	"
Phosphate of Soda,	3	"	"
Carbonate of Soda,	20	"	"

"By dissolving 140 grains of this salt," remarks the Doctor, "in 40 fluid ounces of distilled water, and filtering, we obtain a fluid having a decidedly saline taste, a faintly alkaline reaction, and nearly approximative in its composition to the fluïd effused, minus the organic substances. These are small in amount, and their loss has apparently no important influence on the constitution of the blood."

Sulphuric acid, so highly recommended by Dr. Fuller, was prescribed, but without any benefit. Opiates and astringents were not used, because they had been fairly tested in the epidemic of 1849 with very unsatisfactory results, and were then abandoned with obvious benefit; and the results of the simple treatment given above sufficiently attest, that they cannot be considered as necessary in the treatment of Cholera. In no hospital in this country or elsewhere, so far as I am aware, where these remedies have been relied on, or any other, indeed, has there been so large a proportion of recoveries, considering the stage of the disease when treatment was commenced, as has been shown to have occurred here. They are used for the purpose of arresting the alimentary discharges, which are considered as the cause of the sudden prostration of vital power which occurs in Cholera. The observations of the writer have induced him to adopt different pathological views. Every practitioner of much experience must have observed, in severe cases of diarrhœa and cholera morbus which recover, much more copious discharges than occur in many fatal cases of Cholera; and he must have been struck with the rapid development of the algide and cyanic symptoms, after so small an amount of the discharges, which, in other diseases, would not excite a feeling of uneasiness for the safety of his patient. Whenever a patient was admitted into the Brooklyn Cholera Hospital with copious and frequent vomiting and purging, especially of the rice-water fluid, if the discharges were not involuntary, a favorable termination usually occurred, and, *vice versa;* and instead of death being the consequence of such symptoms, the conclusion seems more rational, that they are a curative means adopted by Nature to eliminate the poison from the system. Instead, therefore, of arresting the discharges, it was deemed best to *let them stop.*

From the materials presented in the preceding pages, the following conclusions, with others, may be legitimately deduced:

1st. If we may draw a general inference from the observations made in the Hospital in this city, Cholera should be regarded as a much less fatal disease than it is usually conceded to be.

2d. That premonitory diarrhœa, though usually, *does not invariably* precede the development of Cholera.

3d. The copious vomiting and purging of a fluid resembling rice-water, instead of constituting the essence of the disease, should, if not involuntary, be regarded as an indicatian of its favorable termination.

4th. In the treatment of Cholera, we should exhibit the highest respect for the *vis medicatrix naturæ.* I would rather be deprived of all other remedies, for this disease, than ice and beef-tea.

GREENE AVE., BROOKLYN, N. Y.

ART. IV.—*Exsection of the Head of the Femur and Removal of the Upper Rim of the Acetabulum, for Morbus Coxarius, with perfect recovery.* By LEWIS A. SAYRE, M.D., Surgeon to Bellevue Hospital, etc.

ON the 20th of March, 1854, I was called, in consultation with Dr. Throckmorton, to see Ellen G., 297 5th street, aged 9 years, who had been suffering for 18 months with morbus coxarius of the left hip, which was supposed to have resulted from a fall. She had been treated with issues, blisters, etc., together with the general tonic and anti-scorbutic remedies adapted to such cases; but the disease continued to progress, until an abscess was discovered, involving the whole upper front and inner portion of the thigh, accompanied with repeated chills, profuse sweats, and great prostration.

When I first saw her, this abscess had pointed in two places, and was apparently just ready to open; the point nearest the surface and most fluctuating was just by the anterior superior spinous process of the ileum, immediately in contact with the attachment of the tensor vaginæ femoris muscle, and Poupart's ligament. The other place of pointing was about five inches below the ligament, just over the femoral artery; pressure on any part of the upper portion of the limb distended both of these pointing abscesses, showing communication between them.

The leg was shortened 2¼ inches, and turned inward, *but not permanently fixed in its position,* (as is usual,) but allowing of considerable motion, which gave a distinct *bony crepitus* between the femur and ileum. The pelvis was twisted and drawn upwards. Her general health had become much affected, having lost her appetite, and she was suffering from hectic, with constant chills and profuse sweats, and was only rendered comfortable by the constant use of anodynes.

I advised a free opening of the abscess, and, if necessary, to remove the head of the femur. At first this was objected to; but, as the child's health rapidly failed and death seemed inevitable, the father, in a few days, consented to the operation. Accordingly, on the 29th of March, 1854, assisted by Drs. Throckmorton, Drake, Thebaud, Bauer, and Bertholf, I proceeded to perform it.

I first laid open the abscess by a free incision of about six inches, over the trochanter major, on the outer aspect of the thigh, and in a line with the femur, and then cut into the floor of the abscess (which principally occupied the inner and front portion of the thigh), and discharged about a pint of thin serous and flaky pus. The finger was then readily passed around the neck of the femur, and detected an opening in the capsular ligament on the inner surface of the neck. The upper border of the acetabulum had been absorbed, and the head of the femur was upon the dorsum of the ileum, near the anterior superior spinous process, *surrounded by its capsule*, (which seemed to have been slipped up), and a large deposit of bone, apparently being an attempt of Nature to make a new acetabulum. But this cavity thus formed had no lining membrane, as the femur grated roughly upon it. I then opened the capsular ligament on a line with the external incision, and disarticulated by bringing the leg strongly across the opposite thigh, and then, with a large pair of Luer's forceps, readily cut off the head of the femur at the lower extremity of the neck. The bone at this point appeared pefectly healthy. I was very cautious not to injure the insertion of the psoas-magnus, or iliacus-internus, or any of the rotator muscles, which are inserted just behind the trochanter major.

The upper rim of the acetabulum had been absorbed, (according to the theory of Dr. March, of Albany,) and the new deposit of bone, which was intended to supply its place, was denuded and carious. I gouged it off with a sharp, firm chisel, made for that purpose, and, in this way, took off a number of flakes of bone, until I came to a healthy, bleeding surface.

The anterior superior spinous process on its outer surface, and the external lip of the crest of the ileum, was black and carious for some distance, and with the forceps I easily clipped it off until I came to healthy bone. Very little blood was lost in the operation, and after cleaning away all the debris, I brought the leg in the straight position, filled the wound with lint, and dressed with a roller and cold water compress. She was then put to bed, and a cup of strong coffee administered, after which she soon fell asleep.

The child was under the influence of chloroform during the operation, which occupied nearly 20 minutes, and was perfectly insensible the whole time.

The following extracts from my note book, taken at each daily visit, exhibit the progress of the case:

11 P. M.—Has slept occasionally and is quite comfortable; pulse 128; skin good; vomited freely about 4 P. M.

March 30, 10 A. M.—Passed a good night, without any narcotic, and slept about four hours; has had no chill; taken breakfast with a relish, and is surprisingly comfortable, considering the magnitude of the operation; pulse 120; no hemorrhage; passed urine twice.

March 31.—Took half a grain of opium last night; slept well; pulse 120; skin good; removed external layer of lint; found small amount of pus.

April 1.—Slight fever; heat of skin and thirst; pulse 130. Administered 5 gr. Dover's powder, with addition of half a grain ipecac., every four hours.

April 2.—Has passed a good night, slept six hours, ate a good breakfast, and feels every way better, but is much more feeble; dressed the wound; on removing the lint, found healthy pus in abundance.

The abscess, which pointed at the anterior superior spinous process, being again full and fluctuating, I opened it, and gave exit to about a tablespoonful of tolerably healthy pus; pulse 140, and more feeble; directed to administer brandy and beef-tea more liberally; I do not think the family give sufficient stimulant or nourishment, as they are very strongly opposed to brandy, and are afraid of meat on account of fever.

April 3.—Slept well all night without opiate; pulse 120; bowels moved twice naturally; appetite good; finding great improvement, follow a more nutritious diet; I advised its continuance.

April 4.—Same as yesterday; healthy suppuration, rather abundant.

April 5.—Child very comfortable, amusing herself by cutting paper dolls; applied the straight splint for counter extension to the well side, and made extension by means of the foot-board, bringing the limb down to the same length of the opposite one.

April 6.—Slept well; bowels moved naturally; but pulse more quick and feeble, 160; has not eaten so well; ordered brandy and soup to be given more liberally.

April 7.—Slept well, but much weaker, having had three loose discharges in the night, and some hemorrhage from the nose, which was arrested by astringents and compress. Ordered brandy and laudanum, with more liberal use of iron.

April 8.—Diarrhœa not yet checked; the brandy and opium was not given, and yet the child is somewhat stronger than yesterday; pus more consistent.

April 9.—Diarrhœa checked; slept well; eats freely; discharge less copious and more consistent; pulse 120.

April 10.—Very comfortable; looks as if it will require a counter-opening on the front of the thigh, at the old place of pointing.

April 13.—Doing well, and the wound filling with healthy granulations.

April 14.—I applied a compress and adhesive straps on the inside of the thigh.

July 1.—Dr. Throckmorton has seen the child daily since my last visit, and reapplied the bandage and compress, which has had a most salutary effect, and the abscess has the appearance of healing rapidly.

July 10.—I was again called to meet Dr. T. to-day, and found the child much prostrated from a severe attack of dysentery, which had lasted four or five days; she is very much reduced, and, I fear, will not rally. The granulations are flabby, and pus thin and copious.

August 1.—The dysentery has been checked for some days; but the wound, which was nearly closed, has opened, and a small piece of ragged bone came away, which was probably some portion of the shavings or chips removed from the ileum, at the time of the operation, and which I had not been sufficiently careful to remove.*

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* Since making this note, my impressions have been more confirmed, as two similar pieces of bone have been removed from different parts of the cicatrix, and have thus materially retarded the progress of the case; I should therefore

August 20.—The child very much improved, but the fistulous opening, from which the piece of bone had escaped, remaining, and having rather a white and flabby appearance, I injected it with tinct. iodine.

August 24.—The injection has been followed, by a smart attack of erysipelas, which has extended down some distance below the knee, and there is considerable constitutional disturbance.

Sept. 1*st.*—The erysipelas gradually subsided, but seems to have been of great service, as it has caused union of the walls of the abscess all around the thigh, and the small opening in the cicatrix is nearly closed, discharging a very few drops of healthy pus. The limb is still in the extending splint; but on removing it there seemed no tendency to retraction of the limb. The splint was reapplied; but the body was left free from the bandage, so as to allow of flexion in order to prevent anchylosis.

I might here mention, that for some weeks past, since about the 1st of August, at each dressing her body has been brought at a right angle with the thighs, having this object in view; and I have now permitted her to do it as often as she likes.

Nov. 1*st.*—I had not seen the case for two months, until to-day, when, to my astonishment, I found her walking on her crutches, which she has been able to do for some two weeks. Her limb appears the same length as the other, and she can flex and rotate it freely. I directed her to bear no weight upon it yet.

20*th.*—To-day I placed her in the horizontal position, and measured her carefully, and find there is about $\frac{1}{8}$ or nearly $\frac{1}{4}$ of an inch shortening. By taking hold of the foot, the whole body can be drawn down in bed without pain in the joint, and a pressure may be made sufficiently strong to move

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advise great care, after the performance of this operation, that all debris and foreign bodies be carefully washed from the wound; and in so large and ragged an abscess as this one was, it will require more care than any one would imagine, unless they had seen it.

the pelvis and body upward without producing any shortening of the limb. When she lies upon the back, with the leg extended upon the thigh, she can elevate the heel sixteen inches from the bed, and flex the knee so as to bring the thigh at a right angle with the pelvis; she can rotate it internally so as to touch the other foot, and externally so as to touch the bed. Her general health is perfect, and the case has terminated perfectly successfully. I feel in duty bound to express, in this place, my warmest thanks to Dr. Throckmorton, for his constant care and attention of this interesting case, and to which I am confident I am greatly indebted for so successful a result, as the distance from my house rendered it impossible for me to give it the care required.

The bone was carefully examined, microscopically, but no trace of tubercle was found.

REMARKS.—The history of exsection of the head of the femur in hip-joint disease lies within the present century. The first surgeon who suggested the possibility of exsection of this bone, was Mr. Charles White, in 1769; but the first to attempt its performance, in morbus coxarius, seems to have been Schmalz, in 1816. In this case the head of the bone was found loose, and simply required removal; but it was, on this account, no less a case of exsection in this disease, and its successful results add much interest to the early history of the operation. In 1818, Anthony White performed his celebrated operation, which has generally been referred to as the first successful attempt to exsect the head of the femur in morbus coxarius. It seems to have been repeated in Great Britain but once, and then by Hewson, of Dublin, until 1845, when Mr. Fergusson operated successfully. Since this date it has been very frequently performed in England; and within the last year we find notices of three operations in the London Hospital. Mr. Fergusson has operated five times, and, as far as we can learn, with uniform success; one patient died two years after the operation of "of enlargement of the liver, after having experienced great relief from the proceeding."

Mr. Fergusson states (*Med. Chir. Trans.*, vol. 28), that he has learned that Mr. Brodie performed this operation, and "the patient died within a few days after, the direct effect of that proceeding;" but Mr. Henry Smith, writing in 1848 (*London Lancet*), remarks that he has not been able to "obtain any accurate information respecting the correctness of this assertion." There is no doubt that this surgeon did exsect the femur at St. George's Hospital, about the year 1836, but under what circumstances it does not appear.

In this country this operation seems to have attracted little attention. A case is reported in the *N. Y. Med. Surg. Reporter*, Jan. 10, 1846, in which Dr. J. P. Batchelder, of this city, removed the head of the femur in 1845, under the following circumstances: A young man was kicked by a horse upon his hip, four or five years before, which gave rise to severe symptoms: fistulous openings formed and discharged pus freely; the probe finally detected dead bone; the fistula was dilated with sponge tents, and the dead bone removed with forceps, which proved to be the head of the femur; the patient now rapidly improved and eventually recovered.

I have learned that Dr. Parkman, of Boston, exsected this bone in 1853, but the particulars and results of the case I have no knowledge of. Dr. Bigelow, of the same city, operated soon after, but the case terminated fatally. From a somewhat extended examination of our medical periodicals, I have been unable to find records of any other case.

By a careful examination of the accompanying table, I think the propriety of the operation will be admitted. We might maintain its importance, also, from the fact that it is but following the indications of Nature. The cases of Schmalz and Kluge, in which the head of the femur was found separated from the shaft, are examples of natural efforts to remove the foreign body. Two striking instances of this kind were reported to the *Dublin Pathological Society*, in 1839, by Dr. Carlile, who exhibited two specimens of the epiphyses of the femur, which had been spontaneously discharged in two cases of hip-disease. One patient was 20 years of age, the other 5; both rapidly and completely recovered.

In preparing the following table, regard was had to exsection only in morbus coxarius, as it is in reference to this particular class of cases that we wished to estimate the value of the operation. To arrive at the most satisfactory conclusion in regard to the propriety of the operation, each case ought to be carefully examined, and the complications duly considered. It will be sufficient, however, for our purpose, to notice briefly the fatal cases, and, as far as given, the causes of death; by these means we can estimate the part which the operative proceeding bore in the fatal issue of the several cases.

Hewson's Case.—Profuse suppuration; died three months after the operation; extensive disease of the cotyloid cavity found, with perforation of the acetabulum and formation of abscesses in the pelvic cavity.

Textor's first Case.—Sloughs formed on the sacrum; died on the 53d day after the operation; on examination, the wound was found nearly cicatrized; there was the commencement of a false joint, consisting in bony deposits on the femur, and a depression on the ileum.

Textor's second Case.—Gangrene of the wound took place, and the patient died on the 4th day.

Fergusson's Case.—Died two years after, of enlargement of the liver; wound never entirely healed, owing to a piece of necrosed bone from the edge of the acetabulum, which the trochanter major prevented from escaping. The operator remarks: "I left the trochanters, being under the impression that by taking away the diseased head of the femur only, I lessened the danger, but it was found in the after treatment, that the trochanter major so projected outward in the line of incision as greatly to retard the closing of the wound, and I had no doubt, on inspection after death, that it had acted as a kind of cap to the acetabulum, and prevented the necrosed portion of bone, above referred to, from getting out." *

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* We do not learn that he used any extension—if so, this ought not to have happened.

Roux's Case.—Secondary hemorrhage; died on 7th day; post-mortem examination revealed a large collection of pus between the glutei muscles; extensive disease of the cotyloid cavity; extensive disease of femur below its section; pus in the medullary cavity, disease of pubic bones.

Simon's Case.—Particulars of this case not given.

Smith's Case.—Progressed favorably for a time; symptoms of Bright's disease made their appearance, and he died four and a half months after the operation. Kidneys found in an advanced stage of Bright's disease; sinuses were found extending upwards along the psoas muscles and originating in caries of the upper lumbar vertebræ.

Hawkins' Case.—Patient very much exhausted; suffered little by the operation; died on 3d day. On examination the acetabulum was found perforated so as readily to admit the passage of the finger.

Bigelow's Case.—Particulars not given.

Erichsen's Case.—Particulars not given.

It will be seen that, as far as the particulars of these fatal cases are given, death was attributable in most instances to some grave complication. The operation has almost invariably produced the most favorable change in the general symptoms of the patient, and, in several fatal cases, the parts involved in the operation have healed in the most satisfactory manner, when at length the patient has succumbed to some new and acute disease.

By a careful examination of the tabulated cases, the propriety of the operation must be admitted, and also the great importance of not neglecting it too long, lest the constitution become so exhausted as not to rally from the shock, or sink from excessive suppuration. By too long delay, also, the acetabulum may become so much involved as to render the operation useless.

So soon as *suppuration* is formed *in the joint*, and the *synovial membrane* has been *destroyed*, which can be ascertained by *fluctuation* and *crepitus*, I should advise a *free incision* to be made *into* the joint, just posterior to the trochanter major, to give free exit to the pus. Extension should then be made, after the plan proposed by Prof. March, of Albany—otherwise the bones of the pelvis may become seriously involved. From personal experience in opening suppurative joints, I am satisfied that there need be no fear from the admission of air, which has always been so much dreaded. This fear has, doubtless, arisen from the great constitutional disturbance which follows its introduction into *healthy* joints, but we must recollect that after suppuration and destruction of the synovial membrane, that it has in fact no longer the *characteristics* of a *joint*, but is the same as any other abscess connected with bone, and should be treated upon the same general principles. By this prompt treatment in the *earlier* stages of the *suppuration*, we will avoid the necessity of *exsection*, and in the majority of cases have a speedy recovery with tolerable motion, and in many instances perfect and complete. Two such cases have occurred in my own practice, and I have seen a number in the practice of my friends. But as I did not intend to speak of suppuration of the joints in this paper, but simply of exsection for caries or necrosis, I will postpone the further consideration of this subject, merely remarking, that if we will carefully study the fatal cases which I have reported, I think we cannot help but infer that, had the plan proposed been earlier pursued in those cases, we might have anticipated a more favorable result, at least, in some of them.

SUMMARY.—*Whole number*, inclusive of above case, 30.

Recovered, 20.—Of these, 13 were completely successful; 3 died of an intercurrent disease, at periods varying from three months to two years after the operation; 1 is reported as not having progressed favorably; the remainder were too meagrely reported, or too recently performed to decide correctly of results.

Died, 10.—Of these, 4 died within one week after operation; 1 on the 12th day; 2 in two months; 1 in four and a half months; 1 some months after; 1 unsuccessful.

Table of Twenty-nine Cases in which the operation of Excision of the Head of the Femur has been performed in Morbus Coxarius.

NO. & SEX.	AGE.	CAUSE AND DURATION.	CONDITION.	OPERATION.	PROGRESS OF CASE.	OPERATOR.
1			Caries; head separated from shaft.	1816.	Recovered.	SCHMALZ.
2, M.	14	Fall three years before.	Head dislocated on dorsum; great exhaustion; several fistulæ.	1818; straight incision; straight saw; four inches removed.	Bandages and splints used as in compound fracture; fever slight; discharge soon ceased; health rapidly improved; well in a year; perfect use of limb, except in rotating knee in.	WHITE.
3			Caries.	1823; removed above lesser trochanter.	Perforation of acetabulum and formation of abscesses in the pelvis; died in three months.	HEWSON.
4			Caries with abscesses.	1829.	Cured in 6 weeks; patient able to walk.	SCHLITCHING.
5			Caries; head loose; fistulæ.		Died two months after operation.	KLUGE.
6	Child.		Caries.		Recovered.	VOGEL.
7			Disease of neck of bone and trochanter; head healthy.		Sloughs formed on the sacrum; death on 53d day; wound nearly healed.	TEXTOR.
8			Caries; head dislocated.		Gangrene of wound took place and death followed on the 4th day.	TEXTOR.
9				1845; removed all above lesser trochanter.	Complete recovery.	TEXTOR.
10, M.	14	Some months.	Head dislocated on dorsum; large sinus extending to it.	1845; straight incision; chain saw broke; used the straight; four inches removed.	Dressed as in compound fracture; shock slight; wound healed well; health rapidly improved; limb very useful, 2½ inches shorter than the other.	FERGUSSON.
11, M.	8	Some time.	Head dislocated; abscess over the ileum; sinuses; hectic and emaciation.	1847; crucial incision; edges of acetabulum removed; left the trochanters.	Treated as in former case; health improved; wound never entirely healed; died two years after of disease of the liver.	FERGUSSON.
12, M.	15	Long standing.	Dislocation; emaciation; cough; hectic; no abscess or fistulæ.	1847; straight incision; removed head and part of neck.	Secondary hemorrhage; collection of pus between glutei muscles; death on 7th day; extensive disease of cotyloid cavity.	ROUX.
13	Child.	Two years.	Head dislocated on acetabulum; sinuses and abscesses.	1848; removed head and portions of acetabulum.	Died four days after the operation.	SIMON.
14, F.	10	Some time.	Head carious and dislocated on dorsum.	1848; head and trochanter removed; acetabulum healthy.	Recovered.	FRENCH.
15					Recovered perfectly.	FERGUSSON.

NO. & SEX.	AGE.	CAUSE AND DURATION.	CONDITION.	OPERATION.	PROGRESS OF CASE.	OPERATOR.
16, M.	16	Two years.	Caries; severe pain; sinuses with discharge.	1848: straight incision; removed four inches and the carious part of cavity.	Dressed as in fracture; pain ceased; health rapidly improved; wound closed well.	WALTON.
17	....	....	....	....	Unsucessful.	WALTON.
18, M.	33	Year and a half.	Hip swollen; sinus discharging; caries.	1848; straight incision; removed three inches of rim of acetabulum; no ligatures.	Water dressings; fever slight; symptoms improved for four months, when leg became œdematous, and he died 4½ months after the operation; Bright's disease of kidneys, and caries of vertebræ found.	SMITH.
19, F.	....	Three years.	Caries; head dislocated.	1849; crucial incision; removed head and trochanter major.	Recovered perfectly.	FERGUSSON.
20	....	....	....	1849.	Recovered, with perfect motion of the thigh, & could walk a short dist'ce.	MORRIS.
21, F.	12	....	Large open sore on hip; caries; sinuses; emaciation, etc.	1849; straight incision; common saw; removed 4½ inches.	Placed in straight position; slight fever; symptoms soon improved; ulcers healed: health gaining.	COTTON.
22, M.	41	Two years.	Great suffering, grating in joint; large discharge of matter.	1850; made a T incision; capsule entire, except at inner edge; removed below great trochanter; head carious, edge of cavity.	Wound cicatrized rapidly; severe symptoms all subsided; died three months after of dysentery, the wound being nearly healed: parts found in a healthy condition, and in an advanced stage of repair.	BUCHANAN.
23	....	....	Caries; head and neck partially destroyed.	1851; removed head.	Wound healed, but abscess formed; did not progress very favorably.	SAYLE.
24, F.	10	Several years.	Feeble and emaciated; fistulæ discharging freely.	1852; circular incision; large collection of pus under gluteim.	Symptoms rapidly improved; made extension by weight attached to foot; wound healed.	STANLEY.
25, F.	10	Four years.	Head carious; emaciation and hectic.	1852; straight incision; removed one inch below trochanter; also edge of acetabulum.	Progressed favorably two days; died on 3d day after operation; found large perforation of acetabulum.	HAWKINS.
26, M.	10	....	Caries and dislocation.	1852; bone separated while sawing.	Cold water dressings; pulse unaltered three days; death on 12th day.	BIGELOW.
27, M.	14	....	Greatly reduced; bone dislocated.	1853; neck and great trochanter removed.	Rapid improvement; suppuration profuse; died some months after.	ERICHSEN.
28, F.	12	Long standing.	....	1854; removed head and both trochanters.	Improvement marked.	FERGUSSON.
29, M.	8	Long standing.	Gt. emaciation; hectic, caries.	1854; removed head and edges of acetabulum.	Recovered.	ERICHSEN.

ART. V.—*Case of Circumscribed Abscess in Bone.* By P. C. BLEEK, M. D., of King's County Hospital, N. Y.

THE surgeon who first described a case of small circumscribed abscess in bone, and drew the attention of the profession to that very painful and important disease, was Sir Benjamin Brodie,* a discovery which reflects the greatest credit on the sagacity of that celebrated man; for, since he first discovered and described this complaint, and suggested the proper treatment for it, a great many limbs have been preserved and made useful again, that otherwise would have been amputated,—each one saved being another proof, that he is a greater surgeon, who shows how to save a limb, than he who can amputate it in half a minute or less.

Sir B. Brodie was first led to his discovery by examining a leg which he had removed from a young man, and finding that a small abscess in the lower part of the tibia had been the cause of all the patient's suffering; from that time he always trephined in cases where from the symptoms he suspected abscess in the bone, and his operations were always followed by the best results. Other English surgeons, following his example, found the operation equally successful.

Stanley, in his *Treatise on Diseases of the Bones*, gives a full account of this disease. Some German writers† also describe it in their manuals on Surgery, although we do not know that any German surgeon has published a case of the kind as having occurred to himself. The following, it is believed, is the first case of which we have any account in this country.

The patient, John Ryan, aged 32 years, was admitted to the King's County Hospital, from Williamsburg, Dec. 22d, 1853. He complained of an excruciating pain, which had troubled him incessantly for six weeks, in the middle of the left tibia.

He gave the following history of his complaint. When nine years old he met with an accident, which caused compound fracture of the left leg, and was confined to his bed in consequence for two years, during which time several pieces of bone, from half an inch to 1½ in length, exfoliated. Not until six years after the accident was the leg completely healed up, and after that time it did not trouble him, with the exception of the scars on the skin inflaming and ulcerating. These sores, however, always healed up quickly, when properly attended to. The bone itself had remained quite strong.

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* *Lectures on Pathology and Surgery.* By Sir B. BRODIE. 1846.

† BARDELEBEN'S *Translation of Vidal's Surgery*, vol. ii., p. 531. WERNHER'S *Surgery*, vol. i., sect. 2, p. 863.

Six weeks before his admission to the hospital, he suddenly felt a severe pain in the diseased leg. This pain increased, and became so severe that his appetite left him and he could not sleep. When he came to the hospital, he had made up his mind to have the leg taken off, rather than suffer the pain any longer. The man was apparently strong and healthy, but his face was pale, and showed by its expression that he was a great sufferer. The organs of respiration and digestion were quite healthy; tongue clean, bowels regular, pulse frequent. The skin covering the anterior part of the middle third of the left tibia was changed into cicatrized tissue, and was of a rose color. A portion in the center of this had a shining and uneven appearance. The size of the tibia in the part corresponding to the cicatrized tissue was enlarged, resembling the callous thrown out around a fractured or necrosed bone. Just in the center of this enlarged part of the tibia, corresponding with the above-mentioned swollen and uneven portion of the cicatrix, was the seat of that excruciating pain of which the patient complained.

Dr. Turner, who first examined the patient on his arrival at the hospital, diagnosed an abscess in the tibia, and placed the patient under my care. My opinion agreed with his, with the exception that I supposed necrosed bone inside the tibia might be the cause of the trouble. We agreed, however, that the tibia should be trephined on the spot where matter was suspected.

The operation was performed Dec. 27th, the patient at the time being under chloroform. Two incisions, crossing each other, were made over the seat of pain. Then, after having dissected from the bone the four flaps thus formed, I applied a trephine, about half an inch in diameter. On withdrawing the trephine, in order to see if it had penetrated deep enough, about a teaspoonful of laudable pus escaped through the hole made by the pyramid.

After having trephined a little deeper, the cavity in the bone was reached, and the trephined portion was easily removed. Only very little pus had remained inside, and no necrosed bone was found. The piece of bone removed by the trephine had, on its inner surface, an excavation about half an inch in its longest diameter, the greatest depth of which was penetrated by the pyramid. The cavity was then filled with lint, the patient placed in bed, and an anodyne ordered.

Dec. 28th.—The patient complains of much soreness in the wound, but the severe throbbing pain has entirely left him since the operation; warm-water dressings applied to the wound.

Dec. 30th.—He says that he feels first rate; scarcely any pain; has slept well; appetite is very good. The wound in the bone begins to suppurate and granulate.

A fortnight after the operation, he left the hospital, feeling quite able to work at his trade, and being very anxious to support his family. The wound in the bone at this time was filled with good and healthy granulations; only the upper margin of the bone was not covered by them. The cut in the skin had commenced to cicatrize from the corners, the four flaps having retracted almost entirely.

Two weeks afterwards the patient presented himself at the hospital. He said, a few days after he left the hospital, several small splinters of bone had come away from the upper margin of the wound in the bone. Since then this part had been covered completely by granulations. The wound is cicatrizing rapidly now. He is able to walk without the least trouble. Has had no pain whatever; sleeps and eats well, and is very thankful for his recovery.

About nine months afterwards, I saw him again. His leg had remained strong and free from pain ever since the operation. The wound had soon healed up, and the cavity in the bone was filled with bony substance. Only a slight depression showed the spot where the trephine had penetrated the bone.

ART. VI.—*Elkoplasty, or Anaplasty applied to the treatment of old Ulcers.* (A reply to Dr. Watson's "Reclamation.") By FRANK H. HAMILTON, A. M., M. D., Surgeon to the Buffalo Hospital of the Sisters of Charity.

A SERIOUS misapprehension of the nature and purpose of my late operation of Elkoplasty, has provoked, on the part of an esteemed friend, a "Reclamation," accompanied with a brief homily on morals and ethics, the tone of which is somewhat severe, and, as I trust I shall be able to show, in its present application at least, undeserved.

"In our current medical literature we occasionally meet with the announcement of surgical operations and of other performances, as novelties, which have no claim to be so considered. In some instances of this sort, I have seen friends and acquaintances unjustly overlooked; and in some, again, I have had reason to complain on my own account. Up to the present time, however, I have been willing to allow whatever little may have been added to the stock of surgical knowledge by myself to make its own way in the world, and pass for what it is worth, independent of the source whence it came. Nor should I on the present occasion deviate from this course, had I not in view the correction of an evil which appears to be on the increase. The eagerness with which the busy practitioner is now and then solicited to write for the periodicals, and the little time he usually bestows upon his literary contributions, may offer some excuse for the unintentional oversights, or acts of injustice to which I now allude. But it should be remembered that the desire of being useful is not the only incentive to authorship; and that, among the rewards of the medical writer, not the least is the favorable notice of his labor by his professional brethren.

I would not do our critics and reporters the injustice to suppose that in any considerable number of instances, the oversights to which I allude are intentional. Hasty composition and deficient information will explain the most of them."

Such is the language employed by Dr. Watson in his Reclamation, and, in illustration of the justness of which, he has called attention to my paper on Elkoplasty, read originally before the "Buffalo City

Medical Association," and published in the September number of this journal.

Dr. Watson assumes that, in the paper referred to, I claim to have been the first to cure an ulcer by Anaplasty: of which claim, he affirms, "in his proposal as well as in his results, Dr. H. has been anticipated by myself, once in April, and once in July, 1844."

To which I beg courteously to reply—

(Waiving for the present the inaccuracy of the statement, that I have at any time offered such a claim) Dr. Watson did not anticipate me in my "proposal" to cure ulcers by Anaplasty.

He has mistaken the application, and the principle of my operation.

He has not anticipated me in my "results."

Each of these several propositions I hope soon to make good.

Dr. Watson finds that his first proposal to cure an ulcer by Anaplasty was made in 1844. The patient was admitted to the Hospital on the 19th of April, 1844, and the operation was made on the 27th of July of the same year.

If this was not the first proposal of the kind made by himself, it is, at least, that upon which in the present instance he relies to convict me of "injustice."

Of the precise month and day, upon which my "proposal" was made, Dr. Watson had probably no knowledge, for I do not see that he could have had the means of knowing; but that he had the means of knowing the year with certainty, the following, from the very paper which provokes his censure, is sufficient evidence. "In the report of my surgical clinic for 1846,"* etc., etc. "*Two years before the date of this clinic*, when I took the cast alluded to in the above report, I made the same proposition to the lad, and when he declined submitting to it, I appealed to his father, who was a worthless inebriate, to allow me to secure one of his legs to his son's, that I might make the transplantation from him."†

Thus far my proposal dates from the year 1844. How, then, could a writer, impressed with the necessity of vindicating his own rights, and the rights of his friends against unjust claims, have incurred so plain a risk of subjecting himself to the keen and polished points of his own weapons! How could my friend assume so positively that, in the "proposal" as well as in the results, he had anticipated me? For it not only might have happened, for aught that he knew to the contrary, that I had anticipated him at least three months, but it actually did so happen. The cast was taken, and the proposal was made on the 10th of January, 1844, as the records of my clinic will show.

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* *N. Y. Journal of Med.*, vol. xiii., p. 168.—HAMILTON *On Ulcers treated by Anaplasty.*

† Ibid., p. 168.

I am aware how immaterial the discussion of this point may seem to my readers, but since it is made to occupy a prominent place in the Reclamation, I trust no apology on my part is necessary.

It may not, however, be regarded as immaterial, that I should attempt to show that he has mistaken the application of my operation.

I knew very well that Anaplasty in some form had been before applied to the treatment of ulcers; I had often seen it so applied: I had so applied it myself in numerous instances. Indeed, if one will read "Velpeau's Operative Surgery," the same which had been translated by Townsend, and in the American appendix to which is contained a report of Dr. Watson's first case, he will find that M. Velpeau himself has proposed and practiced the cure of ulcers by Anaplasty.

"*Anaplastie par simples incisions latérales. Procédé de Dieffenbach.* * * * * * C'est une méthode opératoire qu'on a déjà mise en pratique autour de la bouche, aux joues, au voile du palais, sur les côtés de la plupart des fistules, que j'ai essayée aussi dans certains cas d'anus contre nature, *d'ulcère des membres*, de perforations de la voûte du palais."*

The application of Anaplasty to the treatment of ulcers, or granulating surfaces, is, I conceive, as old as Anaplasty itself. Surgeons have never ceased, since I began my apprenticeship, to resect or quicken the edges of stubborn, callous ulcers, and, either with or without such lateral incisions as are described by Velpeau, to attempt anew the closure of the wound by sutures, straps, or bandages. Nor does my omission to allude to this imply ignorance of the fact, or improper motives, any more than does Dr. Watson's omission, in the published report of his case, in the appendix to the American edition of Velpeau's Surgery, imply ignorance or improper motive; a report which he furnished himself to Dr. Townsend. ("Communicated by Dr. Watson for this work, and never before published."†)

The operation which I proposed had a limited and special application. It was intended, not for all ulcers, nor, indeed, for all "old" ulcers, as the title of my paper might possibly imply, but only for a peculiar and unusual variety of old ulcers, which could not very well have been specified in the title, but which have been carefully described in the course of the paper.

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* *Nouveaux Éléments de Médicine Opératoire.* Par Alf. A. L. M. VELPEAU. Edit. 1839. Tome Première, p. 631. Paris.

† Op. cit., vol. i., p. 711.

"Some writer has said, 'old ulcers in 1830 will be old ulcers in 1860,' which, not to be understood always in a literal sense, was intended only to express, in a brief and pertinent form, the proverbial obstinacy of this class of sores.

In most cases, the integument has been broken and destroyed by ulceration, and then, usually, bad health, or, perhaps, enlarged veins, have helped to perpetuate the lesion. *In other cases, however, the ulcers are directly in consequence of lacerating injuries, which have at once torn away the skin beyond the power of nature to repair; and that although the health of the body and of the limb may be perfect. In such cases, the refusal of the ulcers to heal is entirely owing to the extensive loss of integument.*"* . . . . .

"I beg to suggest a procedure which, hereafter, in some unfortunate cases of *this class*, may deserve a trial."†

"*Summary*:—

1st.—Ulcers, accompanied with extensive loss of integument, do generally refuse to heal, whatever may be the health of the body or of the limb.

2d.—Anaplasty will sometimes succeed in accomplishing a permanent cure, and especially where the health of the body and of the limb are perfect, and where, by inference, the refusal to heal is alone attributable to the extent of the tegumentary loss."‡

I do not know that I could have been more explicit.

Whether such cases ever occur, in which the refusal of the ulcer finally to heal is entirely owing to the great amount of integument which has been lost, is certainly another question, and one which it may be proper hereafter to consider.

Is it not plain, then, that the "application" of my operation has been misapprehended, when a case is cited as its parallel§ in which "the cavity was about two inches and a half in its shortest diameter," and, as the accompanying engraving will show, was but little more in its longest diameter—in which the obstacle to closure was the complete inversion of the margin of the skin, so that the hair actually lay against the bottom of the cavity; with a necrosis of the external plate of the skull, which was lying exposed at the inner, outer and lower margins of the cavity—and this, possibly, as the report intimates, dependent upon some remaining venereal taint? That these were the only obstacles to closure we infer, because such obstacles are stated to have existed, and no mention is made of any other impediments. It is not said that the loss of skin had ever been very extensive, or that one line of new skin had ever formed upon the margin of the old, or that the integuments in the vicinity had been drawn centripetally until their elasticity had become exhausted.

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* *New York Jour. of Med.*, New Series, vol. xiii., p. 165. Elkoplasty.

† Ibid., p. 167. ‡ Ibid., p. 172.

§ VELPEAU'S *Operative Surgery*, by MOTT. Vol. i., p. 711. American Appendix

No less has Dr. Watson misapprehended the principle of my operation; a principle which derives its suggestion from the peculiar necessities of the ulcer described, and by application to which form of ulcer alone could it have found a satisfactory solution.

Permit me to read the report of my clinic as contained in my paper on Elkoplasty.

"The Dr. has proposed to the boy a plastic operation, with the view of planting upon the *center* of the ulcer a piece of new and perfectly healthy skin. He proposes to take this from the calf of the other leg (having secured the two together), *not intending to cover the whole sore, but perhaps two or three square inches, which he believes will be enough to secure the closure of the whole wound in a short time.*" p. 168.

Again:

"By this means, I hope, gentlemen, not only to supply an amount of skin equal to the size of the piece transferred, but to furnish, also, a nucleus from which additional skin shall be formed. I hope to establish a new centre of life—an oasis—from whose outer verge a true and healthy vegetation shall advance in every direction over the exhausted soil.

It is not improbable, also, that the graft will itself expand, or be drawn centrifugally by the contraction of the surounding granulations and cicatrix, conversely, as the skin about the ulcer had before been stretched and drawn centripetally, by a similar action of the granulations and cicatrix situated within its free margin, so that, after a time, it will cover more space, independent of any actual growth, than it did originally. The opposite of this happens usually in Anaplasty, and would occur here, did the flap equal or exceed in size the wants of the parts to be supplied. The flap would contract, thicken, and project itself above the surface. But in old ulcers, it will generally be found impossible to furnish a direct supply of integument equal to the loss. A deficiency must probably still exist, and sufficient, it is believed, to determine in the transplanted skin a necessity of expansion.

The value and practicability of these views are, I trust, in a measure established by the results, in the case which I shall now take the liberty of bringing before you." p. 167.

And as if this were not sufficient to declare my meaning, I have repeated these essential points in a *Summary.*

"3d.—The graft must be brought from a part quite remote; generally from an opposite limb, or from another person.

4th.—If smaller than the chasm which it is intended to fill, the graft will grow, or project from itself new skin to supply the deficiency.

5th.—It is not improbable that the graft will expand during the process of cicatrization at its margins, but especially for a time after the cicatrization is consummated.

6th.—In consequence of one or of both of these two latter circumstances, it will not be necessary to make the graft so large as the deficiency it is intended to supply." p. 172.

Yet Dr. Watson believes that the only points of difference between our cases, "at least so far as principles are involved," are that in my case the flap was taken from an opposite limb, in his, from the immediate vicinity of the sore—in my case the knife was used; in his, the knife in one instance, and a wash of concentrated aqua ammonia, in the other!

I confess that in my failure to explain myself intelligibly to a mind which, a personal acquaintance enables me to say, is so quick and discriminating, I have experienced no little mortification. I am compelled to believe that my statements have lacked perspicuity. So far, indeed, is he from having entertained the idea, or the principle upon which alone my procedure was based, it has not yet been suggested to him, for he has in his closing paragraph, as if by accident, described the very case, or a case closely analogous to that for which I have proposed to operate, and then he has left it without any remedy, except the too-often ineffectual resources of Nature.

"But so far as the mere closing of the simple ulcers is involved, thanks to the elasticity and yielding power of the skin, the anaplastic method is rarely necessary. In those of moderate size, and in some, too, of immense size, Nature does the work of reparation with very little assistance, provided, always, that little be judicious. And on those again of *greater size*, such, for example, as result from extensive burns and scalds, or from diffuse gangrenous erysipelas, a flap of sufficient dimensions to cover them could hardly be removed with safety from any part of the body."*

Since, then, "a flap of sufficient dimensions to cover them could hardly be removed with safety from any part of the body," I would again suggest that we should, in a few extreme and nearly parallel cases (I allude to the cases which I have myself described), endeavor to establish a new center or focus of cicatrization.

In the report of Dr. Watson's cases, no allusion is made anywhere to the impracticability of engrafting a sufficient amount of skin to completely supply the loss. The case itself, for which alone I have reserved the operation, did not exist. The ulcers were so small, that to supply the *entire* loss by Anaplasty was not impracticable. The integuments in the vicinity were not so contracted and drawn in towards the sore, as that to employ them for the purpose of covering it over would be only "substituting one ulcer for another" (p. 167 of my paper). Very naturally, therefore, it did not occur to Dr. Watson what modification of Anaplasty might be necessary in case these difficulties had actually existed. One seldom thinks to provide for an absent emergency.

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* *N. Y. Jour. of Med.*, vol., xiii., p. 344. Dr. Watson's Reclamation.

That Dr. Watson has not anticipated me in my *results*, it is scarcely necessary for me now to repeat. He has never yet thought of making the flap smaller than the space which it is intended to supply, and then trusting to growth and expansion of the graft to complete the cure. The cases in which he has operated have not involved the necessity of this expedient. He has not, therefore, adopted my procedure, nor obtained my results.

The second case (G. C.), referred to by Dr. Watson in his Reclamation, was never published, until it was drawn from the Hospital records to answer my "claim," and I have, therefore, thus far confined the comparison of principles and of practice to the analogies or dissimilarities to be observed between my case and the case published in the American Appendix to Velpeau's Surgery, and furnished by Dr. Watson.

I am certainly not responsible for never having heard of the case of G. C., although it might have been "much talked about at the Hospital and elsewhere." Yet this case possesses, certainly, more features in common with my own than the one published in Velpeau. The ulcer had been caused by the sloughing of the toes and metatarsal bones of the right foot; the stump would not heal permanently, but continued at intervals to close and again open, causing him serious annoyance. At the time of the operation, a callous ulcer existed upon the end of the stump; and this ulcer had existed during most of ten years. It is probable, therefore, that one obstacle to the closure was the tense and inelastic condition of the adjacent skin; but that this was not the sole, or even the principal obstacle, is evident from the fact that the operator was able to supply the loss by a flap obtained near the sore. It is quite probable, therefore, that the callous condition of the sore, and its peculiar situation on the end of the stump, constituted the main impediments. Yet I will not deny that it may have been a case nearly in point, and for which I should have suggested, rather than the less certain method of supplying the loss from the adjacent skin, the method adopted by myself, viz., of transplantation from a remote part.

Whether any cases ever occur in which an ulcer refuses to heal, chiefly or solely because of the great amount of integument which has been lost, I will now consider.

I have said that ulcers generally close over by either the formation of new skin, or by the condensation of the granulations and the consequent contraction of the old skin. The limit to the centripetal contraction of the old skin is determined by its extensibility, qualified sometimes by the proximity of a joint, and the more or less flexure of the parts over which the integument is drawn. To this contraction there is, then, doubtless, a measure. It is not competent to the supply of every supposable loss of integument, and what hereafter remains to be done must be accomplished solely by the formation of new skin, and this mostly, if not wholly, as an outgrowth from the old. The exceptions which occur to this rule are too few to encourage us ever to rely upon them for aid. Let us determine, then, whether also to the formation of this new tissue there is a limit, or whether, on the contrary, it may continue to develop itself indefinitely. It will be fortunate if the latter supposition proves to be the correct one.

When an ulcer is healing, what do we observe? First, the granulations rise gradually towards the surface, until, along the margins at least, the level of the adjacent skin has been attained. At this moment, the new skin begins to form upon the peripheral granulations, as a pale pinkish circle, which becomes daily more and more opaque and white, until, in the end, it approaches very nearly to the color and firmness of the original structure. This process is at first rapid, and promises soon to close over the most extensive wounds in a brief period. And whether the wound is large or small, the same thing may be seen—the formation of new skin tissue is at first rapid, if the health and other circumstances are favorable. Soon, however, it is observed to progress more slowly, and even in ulcers, which were from the beginning quite small, we are often surprised to find how tedious, after a few days of rapid progress, are the final stages; and how long a time it takes to close up the last few lines of its surface. Nor is this change in the rapidity of the process by any means owing to a change in the health of the patient. It may often be observed to occur, and with the same uniformity of decline, when the health of the person affected is daily improving. Nor is it, again, because the extensibility of the skin in the vicinity has been exhausted, that this delay occurs, for I am speaking only of the new growth, and it is of this that I observe so constantly that *its* progress or development is daily more and more tardy. I wish to explain this phenomenon.

I think new skin tissue is formed, not simply upon, but in some sense, *by* the old tissue. When, therefore, I say:—"The formative power of the old skin does not extend beyond a few lines. The new vessels, becoming more and more attenuated as they stretch inward from the periphery, lose, at length, the power of generating epithelial cells, or, if formed, they are too imperfectly organized to sustain an existence, and they crumble away from the slightest provocation" (*page* 11 *of Article on Elkoplasty*) I have sought only to express my convictions that the new tissue was dependent upon the old for its material of repair. A belief which, with modifications, is entertained by many pathologists in common with myself. Mr. Miller observes, "As a general rule, integument is formed *by* and from integument,"* which expression he afterwards explains to mean, "It is not intended to be understood that the original skin sustains both the production of the organizable material, and the management of the organizing process; the major part of the blastema, whence the cuticular formation is produced, is doubtless furnished by the parts immediately beneath—granulations; and these may also contribute much to the organization. But the process of organization is *commenced* by the original skin, in that portion of the blastema with which it is in immediate contact; and continuance of the process is then, doubtless, maintained by those parts, whether recent or old, with which the advancing pellicle comes in contact."†

But certainly this is a point in pathology which is yet far from being absolutely determined. Whether the lymph which is to develop subsequently into epithelial cells has issued from the capillary vessels of the old skin, or from the vessels of the granulations, the microscope does not decide. The vessels from both of these structures are lying in close juxtaposition, if they are not actually in inosculation, wherever the epithelial cell or its plasma is sought to be obtained. The precise source, therefore, of this reparative material, remains at present a matter of conjecture. Mr. Miller believes that the old tissue furnishes the first plasma, and that subsequently the granulations assume this function entirely, leaving the old tissue no other duty, perhaps, than that of "management," or the assimilation of the products.

I wish to express my dissent from only the latter part of this hypothesis, and to explain more fully why I suppose that the old tissue continues to the last, not only the management, or adaptation of the new material, but also the production or effusion of the same; from which, also, I shall deduce the inference, that, when the old skin or its vessels fail to furnish a supply of blastema, the cicatrization must generally cease.

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* *Principles of Surgery*, by JAMES MILLER. 3d Amer. Ed., p. 199.

† Page 199.

First.—If the granulations or their appropriate vessels are competent, after the process has been commenced by the vessels of the old skin, to the formation of suitable plasma for the construction of epithelium —if this is with them a usual or a normal function, then ought they to perform this duty with as much speed and certainty as did the vessels of the old skin, whose function they have now assumed. But the fact is otherwise. The process, at the moment when it is believed that the skin has relinquished its productive agency to the granulations, languishes and finally ceases altogether.

If, however, we regard the new skin tissue, or the lymph of which it is to be constructed, as always a product of the old, or at least that the new material shall always require some element of matter from the old skin, which shall determine its development into epithelium, then we can readily understand how the gradual diminution of the capillaries through a new and always less perfectly organized structure shall at length render it impossible for them to furnish the plasma requisite for the repair, or for the construction of epithelium cells.

Second.—There are many analogies in the various processes of reproduction and repair which furnish support to this doctrine. Each tissue, when inflamed, furnishes a reparative material like that from which itself has been constructed. "When it is seen that in inflammations of bone the lymph usually ossifies; in those of ligament, is converted into a tough ligamentous tissue; and that, in general, lymph is organized into a tissue more or less corresponding with that from whose vessels it was derived; it is usually concluded that this happens under what is called the assimilative influence of the tissues adjacent to the organized lymph. But we may better explain the facts, by believing that the material formed in the inflammation of each part partakes, from the first, in the properties of the material products of that part; in properties which we know often determine the mode of formation independently of any assimilative force."*

I think, moreover, this case itself—the ulcer which continues to cicatrize more and more slowly—furnishes evidence that it is not by the law of analogous formations, or by assimilation, that epithelial cells are here determined, since this law would continue to operate to the consummation of the cure, and that without delay or abatement.

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* *Lectures on Surgical Pathology*, by James Paget. Amer. Ed., p. 223.

Third.—I have made a careful vertical section into the new skin, parallel to and about one line from the visible margin of a healing ulcer, and I have observed that the process of cicatrization, along this margin, was on the third or fourth day thereafter sensibly delayed. This I have repeated many times on ulcers, at various stages of cure, and always with the same result, provided the walls of the incision were kept only slightly asunder after the wound had been made.

I do not see how this incision should have disturbed the plastic or assimilative force of the free and yet unbroken margin, nor how the circumstance of retardation can be explained, if we believe the granulations below alone furnish the supplies for the new skin. And yet the fact finds a ready solution in the hypothesis that the old skin, or its capillaries, were the vehicles of nutriment for the new, and that by this bisection of their channels the supply has been cut off or interrupted.

My argument is, finally, that such cases as I have supposed, in which the ulcer will refuse to heal, solely because of the extent of tegumentary loss, do and must continue to occur, from the very laws which govern the cicatrization of such wounds.

That they do occur, I affirm also from my own observation and from the concurrent observation of others. Again and again do we find it necessary to amputate a limb, because the integument has been stripped from it beyond the power of nature to repair; and if the same results do not follow after extensive burns, it is, doubtless, because the original skin is only partially destroyed over all this surface, and there remains, therefore, a multitude of little islets from which new skin is capable of advancing.

As pertinent to this question, I will quote from a recent American reprint: "Cicatrization advances with greatest rapidity around the edges of the sore; the center taking the longest time to heal, in consequence of the activity of the process appearing to diminish, the further the new skin extends from the old tissues. *Indeed, if the ulcer be large, there may not be sufficient for the cicatrization of the center.*" *

But if it were true that all ulcers may in time be cured, under proper medical treatment, may it not be well to interfere in some cases of very much delayed healing? One of Dr. Watson's patients had waited ten years, and yet the sore refused to heal, and during a part of this time he was under Dr. Watson's care, and in bed. That all sores will not heal in ten years, even under good management, this case sufficiently illustrates; and I think there are very few large hospitals in which many similar cases might not be found.

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* *Science and Art of Surgery*, by JOHN ERICHSEN. American Edition, p. 69.

ART. VII.—*On the Cause, Nature, Cure, and Prevention of Epidemic Cholera.* By M. L. KNAPP, M. D., late Professor of Materia Medica, and President of the College of Physicians and Surgeons of the University of Iowa; late Professor of Obstetrics and Diseases of Women and Children, in Rush Medical College; Author of "Lectures on the Science of Life Insurance," etc., etc.

TAKING a survey of the human family inhabiting this earth, it is the work of but a moment only, to examine the several agents in the material world that support them in life and maintain them in health: food and drink, atmospheric air, heat, light, and electricity, are all.

Medium, or moderate impressions of these agents necessary to life, or vital stimulants, maintain a physiological state, or the condition of comfort, buoyancy, and happiness, called health. Any other than medium, or moderate impressions, either in force or quality, especially if long continued, induce a pathological state, or a condition of discomfort and tendency to death, called disease. It is to be observed, however, that a considerable variation is compatible with health, especially if neither sudden nor long continued. Man is most comfortable, for instance, in a temperature of about 65° F., but he can withstand 100° if not long continued, or 20° below zero. So of all the vital stimulants, moderation is the law of health. But the earth must wheel its stated course around the sun, producing the phenomena of the seasons; hence, man must be subjected to extreme impressions in summer and winter, and the vegetable kingdom to droughts, frosts, and blights, abridging the vital stimulus of food. These are the laws of Nature, and in them are involved the causes of disease. No other external influences are known, or acknowledged to be present in the physical world, by which the health of human beings can be disturbed, and cannot be admitted without hypothesis.

Discarding all the hypothetical causes of Cholera that may have been offered, such as contagion, infection, epidemic influence, an imaginary entity, possessing the quality of portability, astral influence, malaria, or miasmata, (whether vegetable fungi, or animalculæ); telluric emanations; supernatural agency, called the displeasure of Providence, or the vengeance of God; I look only to known, natural causes of disease, or extreme impressions of the natural vital stimuli, for the cause of Cholera, and a rational explanation of all the phenomena it presents.

Deviations from a healthful standard, in the impression of the vital stimulus of food, or alimentation, constitute one class of causes of disease.

On this proposition I remark, that the natural law, governing man as an *omnivorous* animal, is as imperious as that which has ruled the ox, *herbivorous*, or the tiger, *carnivorous*. Infractions of this law call for a penalty; and it is as much a violation of it to withhold *all kinds*, or a variety of animal and vegetable food and fruits from man, as to stall-feed an ox on meats, or to graze a tiger on clover.

Deviations from a healthful standard, in the impression of atmospheric air, constitute another class of causes of disease.

On this proposition I venture the remark, that this source is most accused, but least at fault. Oxygen is tempered by nitrogen to a suitable medium standard for life and health, and the vegetable kingdom is continually absorbing its accidental impurities, and exchanging pure air: maintaining it in *statu quo*, or at the healthful, natural standard. It is impossible for more than merely confined localities to have an impure air, and ventilation quickly corrects the evil.

Deviations from a healthful standard, in the impression of heat, light, and electricity, always united, so far as science reveals, constitute a third class of causes of disease: these second and third classes are called meteoric causes.

On this proposition I remark, that the power for good or evil of this class of vital stimulants, as manifested in the annual variations of the seasons, is more remarkable upon the vegetable than animal kingdom. Man being enabled to heat up his system by oily, animal food in winter, and to avert, measurably, the discomfort of the high temperature of summer, by a diet of cooling acid fruits, can, by studying the laws of diet, greatly accommodate himself to these exigencies.

Here, then, this important matter is narrowed down, and presented to our common sense under three heads, embracing all known external influences in the material world capable of producing disease; and it follows, as a matter of course, that the cause which produces Cholera is to be looked for in one, or in two, of these sources, or in all three united. Now, it seldom happens, according to general observation, that great sickness and mortality occur, without the combined and coöperating influence or agency of these three causes, one acting as the remote or predisposing cause, and the other two as exciting causes. The question, then, naturally propounds itself here, Which of these causes is most probably the remote cause of Cholera?

Looking at the phenomena as presented in the spread of Cholera, the two meteoric classes of causes named, covering high solar heat or insolation, vitiated air, vicissitudes, or sudden changes from heat to cold, and *vice versa*, humidity, rains, gales, tempests, thunder-storms, and the barometrical phenomena noticed, appear in immediate connection with its outbreaks, progress or aggravation, and are not only generally considered, but are universally held and conceded to be, its *exciting* causes. Hence it follows, that some error in the vital stimulus of alimentation is the *remote* cause of Cholera: there is no other remaining source in the world from whence to derive it.

Forced to this conclusion by sound logic, I would ask in the next place, Does the error in the vital stimulus of food, which produces Cholera, most probably come of a profusion, a poisoning, or a scarcity? All the world will answer the latter; for the poor and destitute are its special victims, while the rich, having means to purchase plenty and variety, though prices be high, and so to fulfill the omnivorous law, usually escape, and under a general poisoning of the food, rich and poor would indiscriminately fall. Furthermore, the population of a country holds in the ratio of its productions: famine is always followed by pestilence. Hence I am forced again, by universal observation and the axioms of political economy, to conclude the error arises from an abridgment; and as the vegetable kingdom is most obnoxious to the meteoric influences causing blights, I infer the difficulty lies in an abridgment of the vegetable productions and stores, or a scarcity in kind, leaving the poorer classes on a cheap, stale, refuse, animal, coarse, *one kind of diet*, without succulent vegetables.

Glancing now at medical history, it appears that, down to near the close of the last century, from time immemorial, a peculiar form of disease, called scorbutus or scurvy, was the great scourge of mankind in all parts of the world, destroying more lives than all other causes of death put together, wars and accidents included. The same mystery enshrouded its nature, its cause, and its spread, that now hangs over Cholera; the same bewilderment and confusion prevailed at the bedside; all the causes that have been conjectured to produce Cholera, were conjured up, marshaled, and arrayed under plausible, specious, and imposing hypotheses, and set down by their respective advocates as the causes of scorbutus; but at last, the simple truth forced itself upon the world, that the cause of scurvy was some error in the vital stimulus of food; and it is now well enough ascertained, that the error consists in the absence of succulent vegetables: let these be wanting or even but partially wanting, for any considerable length of time, and, no matter what the diet in other respects, scurvy will make its appearance. (*Budd.*) A return to the free use of succulentvegetables and fruits, and this course pursued, will arrest and cure the disease. For the last sixty years this disease has been measurably and apparently banished, or so held at bay, or modified by the inculcated free use of succulent vegetables, fruits, and their juices, that it is not known or recognized when it does make its appearance, and its presence is not dreamed of, when but partially developed, although a whole community, municipality, or nation, may be under its power and evil influence, and all forms of disease dreadfully aggravated by its presence.

"We have seen," says Dr. Budd, "that the approach of scurvy is gradual, and that prolonged abstinence from succulent vegetables is necessary for its full development; but it is our opinion that something short of this, that a condition which might be correctly designated a scorbutic taint, must often occur in the lower classes in towns, but especially in prisons and asylums, towards and at the close of long winters, when succulent vegetables are scarce and expensive. Such a condition of the system would necessarily modify the character and course of supervening acute diseases; and it is worthy of most diligent inquiry, whether that form of scarlatina denominated *maligna*, and analogous types of other eruptive diseases, may not, in some cases, owe their peculiar aspect and character to the circumstance of a scorbutic taint already existing, when the system becomes subject to the specific poison of these several diseases. A fact which renders this probable is, that these types prevail most during and at the close of long winters. We may here notice the extraordinary prevalence of typhus in the severe winter of 1837–38, and the petechial character of that epidemic. Sir Gilbert Blane has remarked that the low spotted typhus is always most prevalent in long and severe winters. Willan also states, that the malignant form of scarlatina is usually limited to the winter months. The following paragraph, from Huxam's essay on small-pox, may also bear on this subject: 'I have never observed either the *vegetable or mineral acids* of any great service in the crude crystalline pox, but I have often found them highly useful in the *small black, confluent kind*, with *petechiæ.*' It appears to us, also, that by the common practice of physicians in many chronic diseases, patients are kept far too long a time on a diet consisting of farinaceous food. When a moderate use of succulent vegetables is considered prejudicial, it would be advisable to supply the patient with their equivalent, namely, a certain proportion of orange or lemon juice." (*Tweedie's Practice.*)

Thus the experience of Dr. Budd, and others, fully confirms the observations of the writer, that scurvy underlies and aggravates all forms of disease that are developed towards the close of winter and through the spring, and, according to the writer's experience, through the summer months also, for he has particularly noticed the great aggravation of midsummer bilious fever and cholera-infantum epidemics, after long, cold winters and retarded springs, for the last twenty years, as an invariable result or coincidence.

The outbreaks of scorbutus, then, *per se*, as well as its more hidden and complicated manifestations, follow cold winters and retarded springs; yet its pernicious influence is felt, more or less, particularly among the poorer classes in cities, every spring. It generally begins to show itself during the interregnum of vegetable supplies that occurs between the going out of old and coming in of new or fresh stores, develops into epidemic form under solstitial influences, acting as exciting causes, and recedes in autumn, or as abundant supplies of fresh vegetables and fruit greet the markets, and their plentifulness reduces prices within the limited means of the poor.

These laws of scurvy are explained by the facts, that severe and protracted winters always frost and greatly abridge the vegetables and fruits in store; that they are generally preceded by summers of great heat and drought, which abridge production; and that, added to these evils, they weaken or debilitate the systems of all, by a prolonged low degree of the vital stimulus of heat, together with foul air within doors, confinement, or want of proper exercise; and these coöperating causes, pressing with greatest severity upon the poorer classes, whose diet consists of the coarsest and cheapest kinds of stale meats and breadstuffs, with peas, and beans, at best, for vegetables, when the summer heat comes on, with other depressing and disturbing meteoric influences, acting as exciting causes, epidemic scurvy is the result; and nothing but the abundance of autumnal supplies of succulent vegetables and fruits will restore the public health.

Placing these historical facts in connection with the preceding logical deductions, the human mind is compelled to yield assent to the adequacy of the cause assigned for the effect produced; and when it is considered how true must be the adage, " there is nothing new under the sun," in the laws of Nature, I am forced to the conclusion that *Cholera is but a modified form of scorbutus*, or a younger sister-scourge of the same parentage; probably better expressed by calling it a hemorrhagic termination, or a manifestation of the dying phenomena of scorbutus.

I must either adopt this rational philosophy, or accept the most improbable alternative, that Cholera is a *new disease;* and lingering still on the confines of the history of scorbutus, I find its ever Protean character, its ever changeful, chameleon dress, its ever insidious, insinuating, stealthful invasion of masses of mankind, peculiarly situated, its ever misleading manifestations, strange vagaries, and anomalous phenomena, perfectly answering and solving the matter, if I cut myself loose from the dogma that Cholera has other, and a specific cause, and adopt this innovation in etiology, that Cholera is nothing but a symptom of scorbutus—a serous hemorrhage from the petechiæ, or lesions of the mucous membranes of the stomach and bowels.

The reasons drawn from observation, for believing Cholera to be of scorbutic character, are as follows, to wit:

1. The coincidences of cold winters and retarded springs preceding its outbreaks. It is a matter of history that the winter of 1831–32 was one of the coldest winters ever known. The rivers and harbors of the United States were frozen from November until April, and winter was literally found lingering in the lap of May. The preceding summer was one of great heat and drought. Reasoning from the intensity of these meteoric influences throughout the United States, the crops must have been distressingly abridged, the stores of succulent vegetables and fruits extensively frosted, and prices exorbitantly high in the spring of 1832. Under the operation of these causes of scurvy, active in the highest degree when the summer heat of June of that year struck the United States, the Cholera broke out in New York and other cities and large towns, and raged until the scorbutic subjects were slaughtered, and the public health was repaired by the ripening and free use of vegetables and fruits. Unfortunately for the state of the public health during that season, fruits and vegetables were interdicted by medical opinion, the notion gaining almost universal credence that they were exciting causes of Cholera; which opinion has ever since prevailed in the United States.

The same constitution of seasons, I am informed by an intelligent English gentleman, prevailed in Great Britain in 1831–32, and accordingly the Cholera broke out in London, and other large cities and towns of the Kingdom, and also in Paris and other cities of France.

Not to undertake to pursue the cause through blights, by tracing it on the back track through Prussia and Russia, the year preceding, and so on to India, suffice it to note that its outbreaks and spread in America were governed by the laws that are known to govern scurvy, the date of its advent in the cities on this continent answering to the relative intensity of the causes of scurvy that should have been, and doubtless were, present to call it into action. It broke out of priority, as it should have done, in Quebec (the colder the country, other things being equal, the more intense the causes of scurvy), on the eighth of June; on the tenth, at Montreal; a little later at Kingston, and so on in its southwest course, up the lakes, to the valley of the Mississippi, into successively warmer regions. It appeared in New York on the twenty-fourth of June; at Albany, where poverty and destitution were less intense, though the latitude is higher, on the third of July; at Boston, also later, for the same reason; at Philadelphia on the fifth of July; and at Baltimore a week or so later, and so on.

It made its appearance, partially, again in the year 1834, in the cities of the United States, after a rather cold winter, and surely the most frosty, blighting spring, within the memory of the oldest inhabitants. All the fruits, nearly, apples, pears, peaches, plums, grapes, currants, gooseberries, etc., were blighted by a chilling frost that occurred about the middle of May. The peaches, apples, etc., of the size of sparrows' eggs, fell from the trees. The very forests put on an autumnal gloom. When solstitial influences came to bear upon this preparation of the systems of thousands of the poorer classes, always most predisposed, the Cholera broke out with considerable severity in various cities of the United States. The fact was noticed, that it seemed to rage more fiercely again in the same cities where it was most severe in 1832, and where, no doubt, the causes of scurvy were most intense, and where, besides any influences of topography, the citizens were schooled and trained in the prohibition of vegetables, fruits, and greens; and the country people, not finding ready sale for these products, their culture was neglected, and they were deterred from marketing them through fear.

Again, the winter 1848–49 was a remarkably cold winter all over the United States, the spring of '49 greatly retarded, and all degrees of the scorbutic diathesis were observed at the bedside by the writer of this, who had for years been an observer of its stealthful, annual appearance. The universal spread of Cholera in the cities of the United States, in the summer of 1849, is well remembered, and its continuance until the coming in and use of the new crops of vegetables and fruits.

Casting a glance across the Atlantic, the years 1846–47 were years of dearth, scarcity, and blight in Europe, particularly of the potatoe, the most valuable antiscorbutic vegetable known; and the scurvy and Cholera together followed, scourging the nations generally. Writers in describing the spread of Cholera in Europe, in 1847, say, substantially, that it started from India again, early in that year, passed through the cities of Persia and those along the shores of the Caspian, reached Astracan in July, and appeared at Moscow, faint and weary, in the fall, where it took a refreshing sleep through the winter, but woke up in June, 1848, much refreshed and invigorated, and pursued its travels *via* St. Petersburg, Berlin, Hamburg, etc., to Edinburg and London, where it arrived in November, *en route* for Paris. It is worthy of remark that it struck England again, in her weakest and most scorbutic point, her Newcastle coal mines, and foul holds of her coal vessels; and that, prior to its reaching France, the *cause* of it set sail from Havre for America, in two emigrant ships that sailed in October and November. In the October ship it broke out when sixteen days at sea; and the emigrants were landed at Quarantine, in New York, in November, and the disease spread through the Quarantine Hospital, where the sickly, scorbutic inmates were kept on a routine dietary, and whose cup of affliction was made to run over through panic and an increased accumulation of foul air; and a few cases occurred among the immigrants that went to the "Five Points," in the city of New York, where, however, it could make no progress because of the abundance of fall fruits and vegetables, so it again slept through the winter, the intensely cold winter that followed. In the other ship it broke out when twenty-six days at sea, the *cause* in the emigrants having been more subdued before embarkation, by autumnal fruits and vegetables, than in those of the other ship, which sailed a month earlier; and the passengers were landed in New Orleans, in December, where the disease spread among immigrants and the poor, the weather, for the season of the year, being hot; and it continually appeared on the Mississippi in steamboats, among immigrant passengers, all winter. In the summer of 1849, as observed, it broke out, generally, in the cities of the United States. Now, in all these movements, or rather outbreaks, in Asia, Europe, on the Atlantic Ocean, and in the cities of America, it obeyed the laws of scurvy, and was rendered active in proportion to the *remote* and *exciting* causes of scurvy present; and the emotional, exciting cause of *fear* or panic must not be overlooked.

The more partial epidemic of 1850 is to be explained by the more partial abridgment of vegetables and fruits in various localities, owing either to blights, the withdrawal of labor from production during the sickly summer of 1849, or the false doctrine that vegetables and fruits are injurious; probably all combined. The scurvy was noticed again by the writer, at the bed-side in 1850, and it broke out in the Commercial Hospital of this city in July of that year, while the Cholera was raging here. (*Western Lancet*, 1851.)

The Cholera manifested some activity again in the summer of 1852, after another very severe winter, and a previous summer of great heat and drought, in various localities in the United States. The summer of 1852, however, was a cool one, in the main, and the exciting causes of Cholera, therefore, not powerful. Its ravages at Maysville, Ky., Wheeling, Va., and sundry other points in the Mississippi Valley, are matters of history, and can only be accounted for on rational principles, by tracing the cause to the constitution of the previous summer, abridging production in the localities surrounding the cities and towns where it raged, and the inclemency of the winter, frosting the vegetables and fruits in store. Finding that the conclusions drawn are all the way thus far supported by facts, the coincidences of cold winters, and the causes that produce scurvy, and that during other years there have been no epidemic manifestations of Cholera, the argument seems a good one and worth pursuing.

Applying the same theory, the want of succulent vegetable food, to the rather general prevalence of Cholera in the cities of the United States this season, 1854, a rather intense causation is found, of general application, in the extravagantly high prices of provisions during the present year, high prices not only betokening scarcity, but being the same in effect to the poor. I notice the fact in the public prints, that scurvy and Cholera were both found raging simultaneously in the Poor-house at Buffalo this summer.

Thus the coincidences of cold winters and retarded springs, preceding the outbreaks of Cholera in the United States, its vernal appearance, solstitial ragings, autumnal recessions and wintry slumbers, together with its uniform and close communion with scurvy, prove that it is produced and governed by the laws that produce and govern scurvy. Doubtless, if the statistics were at hand, that the meteoric phenomena and constitution of the seasons could be appealed to throughout Europe and the world, the spread of Cholera would appear as the effect of cold winters, droughts, frosts and blights, in all places wherever it has prevailed, and that its ravages would be found to be in the ratio of the intensity of the causes, remote and exciting, that produce and develop scorbutus.

2. The classes of persons who are the victims of Cholera, are those subjected to restrictions in diet; to a routine dietary; to a poor diet; to inactive habits and to confined, foul air, as soldiers in barracks and in camp; sailors and boatmen; emigrants or ocean passengers; inmates of poor-houses, hospitals, asylums and prisons; inhabitants of besieged cities; dwellers in all filthy, poverty-stricken, God-forsaken localities of cities; immigrants just disembarked; laborers on public works; and the poorer classes in cities—precisely those who, from time immemorial, have been the victims of scurvy.

3. Admitting Cholera to be of scorbutic character, all the strange vagaries attending its history and spread admit of rational explanation, to wit: its home and habitude in burning India, where the poor live on rice, any one-kind of diet without succulent vegetables being sure to produce it; its flourishing in frozen Russia, where the serfs feed on train oil; its march with armies, where the dietary is pork and beans; its breaking out at sea, without the possibility of contagion causing it, where the emigrants live on ship-bread and salted meat; its special regard for immigrants just disembarked, crowded into filthy apartments in confined localities of cities, their blood rendered still more and more scorbutic, by a continued cheap dietary of pork, bread and beans; its recession in autumn, dormancy during winter, vernal reappearance, and summer ravages; and its intensity being in direct ratio to the causes that produce scurvy. In fine, there is not, within the writer's knowledge, a circumstance or anomaly in the history or spread of Cholera, that cannot be rationally explained by assuming the disease to be modified scorbutus.

On this assumption it is not only rational but quite explicable, that one family having lived through a cold winter and spring without vegetables, should die the following summer of epidemic Cholera, or whatever form or modification scurvy may take on, it having always been of Protean character, while the neighboring family, having subsisted chiefly on potatoes, should all escape attack; that the feeble and panic-struck should fall first; that the first cases should appear to be the most malignant and die on shortest notice; that a sudden change of food, even vegetables, and boiled cabbage in particular, should appear to produce it; that great summer heat, sudden changes of the weather, foul air, etc., should develop it into epidemic form; that it should differ essentially from Cholera morbus; that it should leap from city to city, and let country people generally go free who raise, store, and consume abundance of potatoes, turnips and other vegetables, apples, peaches and other fruits, and only send their surplus to market; that it should give New England almost a *carte blanche*, where pot-luck and apples and cider constitute the winter and spring dietary; that it should travel, apparently, as we have seen it described by the date of its outbreaks, in the commercial thoroughfares, along rivers, canals, lakes, etc., and prove most fatal in the cities along those low, flat, cold, damp localities, as Chicago, Sandusky, etc., in which localities vegetables and fruits are not only scarce but of indifferent quality, and the coöperating causes of scorbutus powerful; that a villager not remote from one of those cities, whose vegetable stores had been frosted, on visiting the city when Cholera was raging, should over-task himself in the hurry of business, eat little or nothing through fear and anxiety, sleep disturbedly, see the corpse of one dying of Cholera that night at the hotel, leave for home before breakfast, reach home perfectly exhausted, be taken with Cholera and die before next morning, two or three of his family and sundry patatoless neighbors "catch it," and follow in quick succession, and a potato and turnip, beef and cabbage eating farmer-neighbor hard-by, lay out all the corpses and not "catch it;" that after killing off the constitutionally feeble, and those who had transgressed most by not eating vegetables, the epidemic should decline, and as vegetables and fruits came in and were more eaten, the later cases should become milder and more manageable; that persons flying from a city or locality where the Cholera was raging, should, some of them, be attacked, in whatever locality sought, no matter how high, mountainous, rural or healthful the place, or pure, cool, and bracing the air, the cause being in their own veins.

I notice in the *Galena Jeffersonian*, that the Cholera lately broke out among three hundred laborers on the railroad near Galena, Illinois, quartered on Scale's Mound, four hundred and fifty feet above the level of the Mississippi, the ground dry, the air pure, and no cause to be assigned for its appearance. The laborers were scattered, and down to the date of the notice, over one half of the number had died at the various points reached. The question is asked, "Who can give an explanation of the cause that produced such terrible results? Such results perplex medical science and put at fault all theories in regard to the phenomena of Cholera."

On this I remark, that, assuming Cholera to be a modified form of scorbutus, nothing is easier of explanation than the above awful catastrophe, and every similar result that swells the catalogue of this pestilence, so perplexing to medical science and contradictory to false theories. There are, comparatively, no vegetables and fruits raised in all the mining regions round about Galena, to my personal knowledg and the scorbutic diathesis is so common a phenomenon there every spring season, that it would be remarkable if absent a single year, and a miracle, almost, if absent this year of exorbitant prices. The contractor having those three hundred laborers under his care, had quartered them high and healthfully, which fresh air of heaven cost him nothing, but when it came to paying out four or five dollars a bushel for three hundred bushels of potatoes a month, the case was different; besides, the potatoes, or other succulent vegetables, were not to had at any price in all those regions in May, June, and July; and those three hundred laborers had lived on pork, and beans, and bread, until, prostrated by midsummer heat, modified scorbutus or Cholera broke out; and it broke out in them wherever they went, and slew them as transgressors of the omnivorous law, it mattered not where, whether in the temple of Hygeia or the garden of Eden: the transgression had been committed, and the penalty was sure to follow. Nothing short of a potatoe-patch might save them at that juncture, or an orange grove, which they were sure to miss in all those regions.

Thus, all difficulties vanish, darkness gives way to a fullness of light, every thing is explained on rational principles and by the natural laws—Cholera is in the *system* and not in the *air*, laid there, or produced by violating the law of kindness constituting man OMNIVOROUS, by which his happiness is so much exalted and enhanced: but the law must be fulfilled or the death-penalty will follow. With this key explaining the cause, the nature, and the phenomena attending the outbreak and spread of Cholera, it would now appear mysterious if the phenomena were different and the disease pursued any other course.

4. The phenomena of Cholera at the bed-side, with this key in our hands, reveal so plainly the pathognomonic symptoms of scorbutus, that after rubbing the eyes a little, the better to see through the drapery of some false appearances, every pathologist will discover a full length portrait. The great leading phenomenon is *diliquescence*, or a tendency to the liquefaction of the system. Vomiting and purging are but the proof of what I say, mere accidents. The serum of the blood is thus being passed off. The solids are dissolving and keep up the currents through the bowels and the skin. So in scorbutus, the dissolving of the solids is the prominent feature: hemorrhage, diarrhœa, salivation bear witness. Hemorrhage of all the constituents of the blood is common in scorbutus, hemorrhage of serum only *generally* takes place in Cholera, the structural lesions of the mucous tissues being less deep. The vital powers are at the lowest ebb in both in-

stances, and great emaciation, sudden death, and clearness of intellect till the last, fill up the measure of the leading phenomena in both. Furthermore, cases of Cholera now and then occur where there is neither vomiting nor purging, the mode of death being precisely as in scurvy, after hemorrhage or other shock, the phenomena being sinking, prostration, dyspnœa, gasping, jactitation, and death, with clearness of intellect to the last. The difference in the symptoms all told, is never half so great or apparent as the difference between the ordinary symptoms of ague and fever, and pernicious fever or congestive chill, which all pathologists hold to be the same disease, produced by the same cause.

5. The anatomical characters in Cholera, are not less positive in declaring the identity of its pathology with that of scurvy. The great structural lesion which dissection reveals, is *disintegration*, and in particular of the mucous tissues. The epithelium is detached from the internal petechial spots and passed off by the diarrhœa, constituting the white floculi in the dejections; or it is vesicated in extensively papillated patches; or abraded, but adherent in agglutinated coatings; and these morbid appearances extend not only throughout the gastro-pulmonary, but the genito-urinary branches of the mucous membranes; and patches of *ecchymoses* are often found in the mucous linings of the bowels, and a chocolate-colored fluid as their contents, denoting the oozing out of red blood; and "almost all parts of the body, the brain and spinal marrow, the substance of the heart, the abdominal viscera, the limbs, even the spongy substance of the bones, exhibit signs of venous congestion, and *large ecchymoses* are frequently found in all the parenchymatous glands." (*Wood.*) Now, not to lengthen this article by quotations, precisely the same characters are not only present in scorbutus, but they constitute *the main lesions of structure*, as every pathologist must bear witness, and the ecchymoses spoken of extend very often to the skin, constituting the petechiæ and patches of purpura, so frequently noticed.

6. The curative and preventive effects of antiscorbutic treatment in Cholera, in 1849 and '50, furnished the hints that have led to the investigations which have established the writer's present convictions and conclusions. It will readily be believed, therefore, that there was some degree or tangible amount of testimony in this way at the bedside, enough at least to set the writer thinking, reasoning, reflecting, and inquiring. Most, though not all, of the discoveries in Medicine have come in the same way. Some have been the result of the induc-

tive mode of reasoning. The curative virtues of strychnine in paralysis were inferred from *a priori* reasoing on its physiological effects.

Although scorbutus and Cholera were seen complicated, as then supposed, and domiciliated together "cheek by jowl" in 1849 and '50, in Chicago, where the writer was then practicing. and antiscorbutics were freely administered, and their happy effects witnessed from day to day, continually, in fact, throughout both epidemics. still they were never relied on *exclusively* after the patient was stricken down, for the reason that the writer had then no theory on the subject. The calomel, sugar of lead, and morphine treatment was always combined, or some other empirical resort. The scorbutic diathesis was distinctly seen for many weeks prior to Cholera becoming epidemic, and was treated alone and complicated with the various forms of vernal diseases. In looking back from the writer's present visions of the nature of Cholera, upon the chain of evidences through which clearness of views has come, it is matter of surprise now, that his conclusions should not have been earlier drawn, but such is the "magic of a name," and so powerful are imbibed dogmas in medicine, that the human mind is not left free to interpret rightly the phenomena seen at the bed-side.

The antiscorbutic remedies which the writer now sees were effectual on account of their antiscorbutic virtues, were the common salt emetic (chloride of sodium), which he was continually in the practice of administering as a first remedy, and soda powders throughout the attack. The soda powders were indifferently composed of the bicarbonate of potash or soda, and citric or tartaric acid. The salts of potash and soda, and the vegetable acids named, stand at the head of the list of antiscorbutic remedies, and the known efficacy of common salt in arresting hemorrhage also further explains its value in Cholera. These views also throw light on the success that has attended the saline treatment.

The preventive relied on was punch (lemonade dashed with brandy), with five or ten grains of quinine to the quart, and when diarrhœa was present, a grain of morphine was added. This combination was relied on from having observed scorbutus complicated with vernal agues, and midsummer bilious fevers in the malarious districts of Illinois for nearly twenty years, especially after cold winters, and from the further observed fact that Cholera delighted in the same localities, particularly along the Michigan and Illinois canal. The writer could go on and specify numerous instances of the prophylactic effects of the remedy, in families where, one or two members being struck down with Cholera, the balance were put under the daily use of the mixture and antiscorbutic diet and escaped attack. Though nearly prostrated by a scorbutic taint, and not as generally expressed by that cloak for our ignorance, the senseless phrase "epidemic influence," their strength and spirits would revive, their tongues become clean, their cholerine cease, their appetites return, and an array of evidences as strong as Holy Writ proclaim their salvation from Cholera by means of the antiscorbutic preventive.

7. The analysis of twenty cases of Cholera observed at Pittsburgh, Pa., on the 25th and 26th of September, 1854, chiefly in the Mercy Hospital, contains the crowning testimony that removes all doubt of the correctness of the writer's views, reduces the matter to certainty, theory to knowledge, and incorporates this discovery into the pages of medical literature among the established truths of medical science.

On or about the 15th of September instant, the Cholera broke out at Pittsburgh, Pa., and continued to increase in force for some eight days. On the 23d the writer repaired to said city and arrived there late on the evening of the same day (Saturday), and found the epidemic had begun to decline. The city proper was the chief locality that suffered. In a former visitation the town of Birmingham, south of Pittsburgh, across the Monongahela river, suffered most.

The epidemic commenced with great suddenness, after heavy showers of rain with thunder and lightning, and the sinking of the mercury in the thermometer from 90° to 65° F. in a single night. It broke out that night in every ward in the city, showing conclusively that it obeyed some law other than that of contagion or portability. There had occurred some half a dozen cases at the southwest end of the city, prior to that night; but on that night forty cases or more occurred in the most widely scattered manner. It struck down the feeblest member or members of whatever family it touched, and about three-fourths of all who perished during the epidemic were women—principally mothers. It did not spread through or destroy whole families, as it often does, but seemed satisfied to take the weakly and debilitated only. It increased in force for something over a week, say ten days from the first reported deaths, when the mortality reached to over one hundred deaths a day, in a population of some 60,000 souls. The crisis of the epidemic occurred under an equable temperature of about 70° F., and the abatement or decline was rapid, the weather holding pleasant.

[To be continued.]

PART SECOND.

CRITICAL ANALYSIS.

ART. VIII.—*A Systematic Treatise, Historical, Etiological and Practical, on the principal Diseases of the Interior Valley of North America, as they appear in the Caucasian, African, Indian and Esquimaux Varieties of the Population.* By DANIEL DRAKE, M.D. Philadelphia: Lippincott, Grambo & Co. 1854. First Series, 8vo., pp. 878; Second Series, 8vo., pp. 985.

THIS great work is now presented to us complete as its gifted author could make it ere his earthly labors were terminated; and, though the task of filling up the plan which this great medical philosopher had elaborated and nearly perfected yet lacked a few finishing touches, his name will need no other, and could have no more enduring monument than this incalculably valuable contribution to the literature of our profession.

But Dr. Drake did not labor for personal fame: he was one of Nature's noblemen, and needed no such incentive to activity. Loving knowledge for its own sake, he sought and studied facts as nature presents them, traveled over vast distances, entered into extensive correspondence with his brethren, that he might collect and analyze the results of their observations and experience; while at the same time he faithfully inspected and studied the medical topography of the Great Valley. This was a labor of many years, a truly Herculean task for a single individual; a task that none have shared who now enjoy the fruits. But like every true philosopher, Dr. Drake found ample reward for all his labors in the personal pleasure he enjoyed in his studies. Our author was peculiarly fitted for the great work he undertook. Since the commencement of the present century, a practicing physician in Ohio and Kentucky, where he had received his professional training, and for many years a professor in one of the largest and best medical colleges in the Valley, and a clinical teacher in one of its most important hospitals, his mind was well prepared for such an undertaking, and his masterly genius was developed in consonance with the broad and fertile expanse of the rapidly-populating territory of the Great West.

No other section of the globe presents a region, the medical topography of which can be studied upon so extensive a scale, and there is no other country where diseases present more varied and important regional characteristics:—A vast hydrographical basin, including six millions of square miles, or three-fourths of an entire continent; touching the Pole of Cold on the north; embracing in its more fertile and populous section the entire width of the temperate zone; and on the south extending by its broad base into the region of intertropical heat;—in such a vast valley the prevailing diseases must exhibit many and varied topographical and climatic as well as special pathological peculiarities, of great practical importance.

Dr. Drake's first volume relates especially to the topography and climatology of the Valley, while the second series of the treatise is devoted to the consideration of the general and the special pathology of the principal diseases, together with the leading therapeutical facts and principles which have been established by the most reliable experience. Of the first volume it may be justly affirmed that, for comprehensiveness of scope, accuracy and extent of research and detail, and scientific order of arrangement, it has no equal in the medical and topographical literature of any country; while of that portion of the treatise included in the second series, it may be safely said that it constitutes one of the most eminently suggestive and practically valuable contributions ever made to the literature of general pathology and practice.

There may be some physicians who have regarded the first series of Dr. Drake's treatise as of secondary importance, and of little practical interest to the common practitioner; but such an estimate of the extensive and highly important researches there embodied, would be an error which no intelligent physician could commit. In no unimportant degree do diseases take their main characteristics and peculiar aspects from the climatic and topographical peculiarities of the region in which they occur; hence, a knowledge of these ever-varying peculiarities and anomalous modifications, in the etiological history of diseases, is certainly of no less practical importance to the physician, than is a perfect familiarity with the established symptomatic and pathological history of any disease which is at all influenced by zymotic or other general agencies.

The immortal Coan philosopher, the father of medicine, deemed this department of our knowledge of diseases of special importance, and he wrote extended treatises on Places, Airs, Waters; and Winds. What Hippocrates so nobly attempted, without any of the aids and appliances of exact science, our author has, with a success commensurate with his almost unlimited scientific means, most satisfactorily accomplished.

An extended and complete analysis of this most comprehensive treatise would be inpracticable in the limits of this Journal, and it is not demanded, inasmuch as the work is within the reach, and should be in the possession, of every American physician. We shall, therefore, consider it our duty only to call attention to the importance of the work undertaken by our author, pointing out some of the richer fruits of his labors, while we discuss some of the more important deductions to be drawn from his experience, observations, and researches.

An eminent geologist has remarked that, "a knowledge of the hydrography of a country aids as much in determining its geology as does its orography,—that is, its description of mountains." *

As much may be affirmed of the importance and certainty of the relations naturally existing between the hydrography and climatology of any given section of the habitable globe, and the general and distinctive characteristics and peculiarities of the prevailing diseases in such locality. Given, in proper connection, the general course and character of the rivers, the character of their banks, and their mode of embouncheur; with the form, altitude, and mode of outlet of the lakes, of any given section of the earth's surface, and the main features of the geology of that region may be very certainly determined. But upon a large scale only can such investigations and deductions be reliably made, mere local descriptions furnishing insufficient data for reliable and accurate conclusions. So, in the study of medical topography and climatology, researches should be prosecuted upon an extended scale. To Dr. Drake belongs the honor of having first accomplished such researches with any thing like success, and these investigations have the merit of having been made in the most extensive hydrographical division of the globe. It should be borne in mind, that these researches possess a general as well as a local value; for the general principles deducible from such investigations will be found to apply, with greater or less certainty, to any corresponding hydrographical and climatic region of the earth. But in reference to the social and

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* *Outline of the Geology of the Globe.* By EDWARD HITCHCOCK, D. D., LL. D. Boston, 1854.

political prospects of the great Interior Valley of North America, its sanitary condition—present, and prospective, constitutes one of the most important subjects that ever invited scientific research from philosopher or philanthropist; for in that Valley is rapidly congregating a mightier nation than ever before has been gathered on any one geographical division of the earth.

A rapid glance at the Great Valley, cannot but impress any reflecting mind with the vastness of its extent, and the importance and certainty of its destiny. Even from its geographical characteristics the philosopher may read its future history as a favored dwelling place for man, and in immediate relations with this subject are all the facts bearing upon its medical topography. Standing on almost any summit of the Appalachian range, one may see the branching arms of the great Father of Waters reaching up to the eastward, almost within sight of the Atlantic; and following in the direction of these streams and rivers, towards the grand synclinal axis of the Valley, we pass over the rich alluvial bottoms in all the river courses; while over immense reaches of extent, from the fountain-head of the Ohio to the distant bifurcations of the Missouri, and to the Red River of the North, is found a soil of inexhaustible fertility, covering the upper and lower silurian geological stratas, whose disintegrating and fertilizing constituents are inexhaustible, while distributed over all the broad basin are the richest coal-fields in the world. Pursuing our course southward, we pass over a broad belt of the cretaceous series, extending from Georgia and Alabama far to the northwest, whose rich soil covers the remains of the great Zeuglodon, with huge crocodiles, sharks, and fishes; and deep layers of the half-fossilized crustacea that once peopled a shoaly sea, but now form the aptly termed "rotten-stone" of all that region; while next southward, is the broad alluvial base of the Great Valley, in the deep black soil of which, by its countless bayous, are entombed the giant animals of the Tertiary Period; and where, but recently in the earth's history, mightier rivers than even the present Mississippi found their way to the sea, through ever widening and multiplying deltas.

Descending from the Rocky Mountains, we pass over broad plains, rich savannas, and broken or rolling prairies, even richer than those which lie east of the Mississippi; while on the north, quite up to the dividing or arctic ridge—which is as far to the north as civilized man ever selects his home—the soil is wildly luxuriant, and it is a land of springs and abundant moisture. *Secondly*, this great Interior Valley is in no section of its axis elevated to a sufficient altitude to protect its population from malarious fevers—Prairie du Chien being but 642 feet above the level of the sea, the mouth of the Missouri less than 400, and the mouth of the Ohio less than 300 feet above the level of the Gulf of Mexico; while the great lakes, which drain the waters of the immense paludal region whose synclinal axis passes through those great inland seas and the St. Lawrence, have a surface altitude only of from 600 feet at Lake Superior, 500 at Buffalo, and 232 in Lake Ontario, to the tide waters of the St. Lawrence at Quebec. A valley so low and yet so wide, as is the double inclined plane of this great hydrographical basin, is not found elsewhere upon the face of the earth, while, by its unobstructed sweep from Cancer to the Northern Pole, winds and prevailing atmospheric currents are established, which, in connection with the special and diversified geographical characteristics of this vast territory, give origin to certain definite and important climatic and meteoric laws, which directly and in an important degree affect the character or determine the nature of the diseases there prevailing. Such is the field described and traversed by Dr. Drake, and such the outline sketch of the work he so nobly undertook.

In the goodly volume of the First Series of his researches, we find embodied all the reliable data he could collect with reference to every point connected with the general and the special topography of the Great Valley; and these facts and statistics are detailed in all their life-giving relations, so that even any observing, though unscientific, reader could not fail to catch some of that inspiration by which the mind of this great Naturalist and Philosopher was first enabled to glean and garner his vast collection of facts, and evoke therefrom those grand generalizations and principles which attract all readers, and have given character to the work and its author.

It is surprising to see with what comprehensiveness of scope and philosophical acumen Dr. Drake's plan of study and research swept the whole field of Nature. He attentively studied every fact relating to the topographical, hydrographical, meteoric, social, and physiological etiology of disease; the mountains, lakes, rivers, soil, and vegetation, geology in its relations, altitudes and configurations; marine and terrestrial relations, lacustrine, valley, and mountain influences, with all the climatic agencies known; and, in his extended travels, testing every doubtful question,—with his own hand and eye determining many points hitherto neglected by naturalists and philosophers; and, lastly, giving us the best tabular views of thermometric, barometric, aqueous, and electric meteorology ever yet produced, for professional purposes, in our country.

Having laid such broad and reliable foundation for the special study of the diseases of the Great Central Valley of North America, Dr. Drake's Second Series has been looked for, with deep interest, by the profession, and we think that, however high may have been any anticipations in regard to the character of this part of the treatise, there is no one but will find it fully equal to his expectations. Of its general character we have already spoken. It remains for us, now, briefly to examine the specialities of which it treats.

This Series is included in Five Parts, divided as follows: 1st.—Autumnal fever, in eleven chapters; 2d.—Yellow fever, in eleven chapters; 3d.—Typhous fevers, in sixteen chapters; 4th.—Eruptive fevers in nine; and, 5th.—The Phlegmasiæ, in twenty chapters.

Under the term Autumnal Fever, which very happily avoids any etiological or pathological hypothesis, are included all those fevers which, by some peculiar meteoric causes, are rendered strictly endemic during the autumnal season. Concerning its geographical limits, our author remarks that:—

> Being an endemic of all hot climates, we are not to look to the shores of the Gulf of Mexico for a southern limit to our autumnal fever. Its base is, in fact, within the tropics; and prevailing, of course, in Havana and Vera Cruz, it is found wherever there are inhabitants, on the northern coasts of the Gulf, between these two cities. In ascending all the rivers which discharge their waters into the northern arc of that closed sea, from Cape Florida round to the Panuco river, it is still met with, and sometimes, as we shall hereafter see, from the influence of local causes, displays greater prevalence and malignity than it shows further south and on a lower level.
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> In every other direction than the south, this endemic has its geographical limits. To the east, its barrier is the Appalachian Mountains, into the very gorges of which, however, it ascends by the valleys which penetrate their flanks. But, as that chain is not found south of the thirty-third degree of latitude, it has, below that parallel, no eastern limit but the Atlantic Ocean. To the southwest, the Cordilleras of Mexico, and the southern Rocky Mountains, constitute its boundaries; while, in higher latitudes, it ceases on the great plains of western desert, long before we reach those mountains. From what can be collected out of the travels and expeditions of Lewis and Clark, Catlin, Fremont, and Gregg, not less than from fur-traders and Santa Fé merchants, it is almost unknown at the distance of three hundred miles from the western boundary of the States of Missouri and Iowa, and above the latitude of 37° N. To the north, it does not prevail, as an epidemic, beyond the forty-fourth parallel, and ceases to occur, even sporadically, about the forty-seventh.

The conditions which impose geographical limits, and give unequal prevalence to Autumnal Fever, Dr. Drake demonstrates to exist, 1st. In the soil; the largest proportion of organic matters marking, other things being equal, the highest degree of prevalence; 2d. Living vegetation; 3d. Surface water, saturating the air with vapor, and giving a high dew point; contributing to the growth of a luxuriant vegetation, as well as to its decomposition; or, by promoting chemical action in the soil; and, possibly, (in Dr. Drake's opinion—*probably*,) determining the production of animalcules and microscopic plants, or, inducing electrical perturbations in the atmosphere; 4th. Temperatute.

Our author gives us a chapter of speculations on the efficient cause of Autumnal Fever, in which is embraced a very good synopsis of the arguments usually adduced in support of the various popular theories on the subject. Concerning the hypothetical existence of a special *malaria*, he shows that, although facts undeniably establish a connection between a certain condition of the earth's surface and Autumnal Fever, they do not prove the existence of malaria, or a *gas*, as the efficient cause of the fever; and he very justly remarks "that while the conditions under which our Autumnal Fever appears are sufficiently clear to observation, the existence of a special gaseous agent, resulting from them, remains to be proved." The *cryptogamic*, or what he denominates the *vegeto-animalcular* hypothesis, Dr. Drake conceives to be the most rational and plausible,—answering more satisfactorily than any other theory all the conditions of the fever. Our author did not borrow this hypothesis from Dr. Mitchell, or any of the disciples of Ehrenberg, for in his valuable treatise on the History and Treatment of Cholera, published in 1832, he very distinctly announced his confidence in the animalcular hypothesis, as best accounting for the etiology of cholera. As regards the Fever in question, Dr. Drake remarks: "It appears obviously, I think, that the etiological history of Autumnal Fever can be more successfully explained by the vegeto-animalcular hypothesis than the malarial. But both, in the present state of our knowledge, must stand as *mere hypotheses.* Neither can claim the rank of a theory; nor will it be entitled to the confidence of the profession until many additional facts are brought to its support." But he adds: "I cannot, *a priori*, attach much practical importance to the discovery of the *efficient* cause of Autumnal Fever." He has, therefore, devoted but little space to the discussion of the subject. Those of our readers who may desire more fully to examine the various questions and facts relating to the natural history of malaria, together with the history of the opinions and arguments connected therewith, will most profitably consult the erudite treatise of Dr. La Roche, recently noticed in this Journal.

In his chapter on the mode of action and first effects of the remote cause of Autumnal Fever, Dr. Drake shows that the weight of argument is in favor of the doctrine of the primary action of the specific poison on the blood, and, through it, upon the nervous system and the solids. His remarks upon this subject are brief, and, though suggestive, contain nothing new.

Guided by those distinctive characteristics which are found to be most important in practice, our author describes Autumnal Fever under the following natural arrangement of varieties:—1st, INTERMITTENT, —*simple*, *inflammatory*, *malignant*. 2d, REMITTENT,—*simple*, *inflammatory*, *malignant*.

As regards the history and treatment of the simple and the inflammatory forms of intermittents, Dr. Drake's observations and experience correspond with the opinions and practice of the profession generally; his account of them is, therefore, brief: but in reference to the malignant form of intermittents, he very appropriately devotes a long chapter to its faithful investigation. This is the type of fever popularly denominated congestive, or malignant congestive, algid, soporose, etc.—a malady almost as much dreaded in the West as is the Asiatic cholera, which, in more respects than one, it closely simulates. Of its history and characteristics, our author remarks:—

> I need scarcely say that this variety of intermittents never constitutes an entire epidemic. It is mixed up with the other varieties; and, in most localities, the proportion which these cases really bear to to the others, is much smaller than is generally supposed, at least by the people. * * * The regions of the Valley most infested with the fevers of this order, as far as I am now prepared to state, are, *First*, The level portions of Alabama, Mississippi, and Louisiana, including the zone of estuaries around the Gulf: *Second*, The southern shore of Lake Michigan, from Chicago, round to the St. Joseph River, and of Lake St. Clair, and Lake Erie, from Lake Huron to Lake Ontario, near the estuaries of the creeks and rivers. The intervening region, and the country off to the west of Lake Michigan, are, however, not exempt; but the proportion of cases, with the exception of a few limited localities, is much less. * * * Relying on the answers to my questions, concerning the increase or decrease of this fever in the regions where it prevails most, I may say that in latter years it has been increasing, and that this increase appears to date from the visitation of the epidemic cholera in 1832–4. * * * That the cholera atmosphere may have had this effect must be admitted. It was very perceptible in the vicinity of Cincinnati for two or three years after that visitation; and the history of epidemics, in all countries and ages of the world, coincides with this alleged effect.

The following is a part of the vivid sketch that our author gives of the symptomatology of this class of intermittents. Of their varying and anomalous symptoms, he says:—

> Compared in the diversity of their phenomena with the most malignant cases of scarlatina, typhus gravior, or epidemic cholera, they are

decidedly more difficult to portray, in a methodical and faithful manner, than either, moreover, their malignity sometimes shows itself by the slightest possible anomaly. Thus, a partial numbness, or a coldness of the great toes, instead of a regular chill, or a disposition to sleep at the access of the paroxysm, may be all that suggests any thing more than the most harmless intermittent. * * * By far the greater number of cases begin as regular intermittents, with a cold fit too slight to excite more than a moderate shivering, such, for example, as ushers in a simple remittent. The cold stage is not followed, however, by the well-developed and prolonged hot stage of that variety of fever; but by one so inconsiderable, that the patient, in many cases, is soon upon his feet, and often resumes his business till the next day, or the day after that. If nothing should have been done, the second paroxysm will be more severe; his coldness will be greater and more prolonged, yet not productive of a shake. * * * The third, and even the fourth paroxysm may thus pass away; * * * but this is rare; and in the majority of cases, the third fit not only discloses the danger of the patient, but often proves fatal, or he struggles through it, to die in the next.

Concerning the best mode of treatment in this class of intermittents, Dr. Drake has extensively advised with those of his professional brethren in the South and West, who have become familiar with this malignant form of the fever, and it appears that with great uniformity, it is conceded that the timely administration of quinine in *large doses*, affords the only hope of the patient; that "hydragogue cathartics are regarded as inevitably fatal;" emetics have not proved salutary; blood-letting, and, in short, all modes of depletion are hazardous, and prove fatal unless they should, fortunately, be followed by reaction.

Remittents:—In the simple and inflammatory forms of remittent fever, Dr. Drake makes the following suggestions concerning treatment, etc.:—

The fundamental principles are, that Autumnal Fever is the product of a specific cause, and, therefore, consists in a morbid action of a peculiar kind, requiring a specific remedy; that we possess such an antidote for the intermittent variety of the fever, and that we have only to abate all the causes and points of difference between the two varieties, to render the sulphate of quinine as efficacious in one as the other.

But what *are* the pathological differences between them? The answer must be, that we do not find them in the functional disturbances and morbid secretions of the liver and *primæ viæ*, which are generally as great in the intermittent as the remittent type. They seem to me to consist in a higher febrile excitement of the whole system; a greater tendency to visceral hyperæmias and inflammations; a much longer hot stage; and the consequent want of a complete intermission. These conditions being obviated, the antidote will take effect, as in an ordinary intermittent. The old treatment, it is true, proposed all this; but the change in the condition of the system was to be accomplished gradually; and as each exacerbation of the Fever added to the lesions of innervation, or removed the inflammation of some organ, it oftened happened that a suitable condition for the administration of the antidote was never reached.

The new modification of treatment consists in transforming a remittent into an intermittent in a single day, and by a single agent. As stimulation will raise an intermittent into a remittent, so an opposite treatment may suddenly change the latter into the former; or, at least, so reduce the excitement of the heart and arteries, that the pathological state of the patient is an equivalent for the apyrexia of an intermittent.

Blood-letting is the means for accomplishing this end. To be successful, however, it must be employed in the first, second, or third paroxysm, that is, before inflammation in any organ has become established. The quantity taken must be such as will bring the patient to the verge of syncope. Pallor and perspiration of the face, yawning, nausea, and a feeble, empty, and rapid pulse, must declare that the excessive excitement of the system is, for the time being, effectually brought down. If these effects be not produced, the preparation of the system for the antiperiodic is not accomplished.

Dr. Drake's investigations, in reference to the treatment of remittents in the Southern States, show by reliable testimony that, in many localities, the quinine may be safely administered at the first onset of the fever, without any preparatory evacuating treatment; and he states that in a southern climate the lancet must be very cautiously used. As regards the use of *calomel*, our author believes that its merits have been overestimated: he would resort to it only as an adjuvant of secondary importance, even in cases of malignant remittents.

Dr. Drake devotes 169 pages to the consideration of Autumnal Fever, and this section of his treatise constitutes by far the most complete and practical exposition of the subject yet furnished to the profession. He remarks, that it is the *great* cause of mortality, or infirmity of constitution, especially in the southern portions of the Valley; it is therefore entitled to the extended and patient examination he has given it.

Yellow Fever.—To the consideration of this terrible scourge of our southern cities, Dr. Drake devotes 170 pages of his treatise; entering upon a very full investigation of the various questions relating to its etiology, pathology, and therapeutical treatment. The question of *contagion* receives, as it merits, a severely critical examination, the facts relating thereto in each epidemic being carefully analyzed, and the history of opinions on the subject faithfully scrutinized, and compared with established facts; though he scrupulously guards against any bias of opinion, and avoids any positive denial of the doctrine of contagion. Dr. Drake's investigations manifestly lead to the conclusion that Yellow Fever does not conform to the law of contagious fever, and that there is nothing in its history, so far as its occurrence in this country is concerned, which would require us to infer that it is ever contagious.

In reference to the symptomatology, morbid anatomy, and treatment of Yellow fever, the leading points are concisely stated, and his chapters on these subjects carefully adapted to practical purposes.

Typhous Fever.—Under this generic term Dr. Drake includes the several forms, or grades, of common continued fever; and, in the two hundred pages devoted to their consideration, the author has given us a very complete and highly practical treatise on this most important class of fevers.

In the section relating to a *general typhous epidemic constitution,* is given a succinct history of that constitution as it has prevailed in the United States, beginning with the memorable spotted fever of New England in 1806, '7, and '8; its modification, known as *pneumonia typhoides,* prevailing in 1810, '11, and '12, and following the march of the epidemic westward through subsequent years.

The history of sub-epidemic and sporadic visitations of the typhous fevers is given in three divisions, corresponding with the *southern basin Appalachian Mountain region; the southern basin; and the eastern, or St. Lawrence basin;* which are arranged in twenty-four sections, relating to the particular communities or regions in which such history has been specially studied.

The Irish immigrant, or ship, fever occupies a separate and lengthy chapter, in which the author particularly relates the results of his personal investigations in Canada.

Some of Dr. Drake's etiological generalizations are exceedingly interesting. We have only space for the following:—

Influence of the annual range of temperature.—We must now inquire into the influence of winter and summer extremes of temperature on the prevalence of continued fever. For this purpose we may use the following data, drawn from places which have nearly the same annual mean heat.

PLACES.	MEAN TEMP. OF YEAR.	OF WINTER.	OF SUMMER.	RANGE.
Cincinnati, Steubenville, and Lewiston	50°	31°	70°	39°
Paris, Vienna, and Berlin	50°	34°	65°	31°
Dublin, London, and Edinburgh	49°	39°	60°	21°

From this table it appears that the difference between the mean heat of winter and summer, in this valley, is equal to four-fifths of the mean temperature of the year; on the continent of Europe, to three-fifths; on the Islands of Great Britain and Ireland, to two-fifths; or, to vary the expression, the range from winter to summer is about twice as great in this valley as on those islands, while the continent of Europe holds a middle place between the two.

Now what is the comparative prevalence of the continued fevers in these different regions? The answer is not difficult. It is inversely to the range of winter and summer heat, being least in the Interior Valley, greater on the Islands, and intermediate on the continent of Europe. It is interesting to compare this climatic law of continued fever with those of yellow fever and autumnal fever. A mean summer temperature of 80°, or above, with a yearly temperature of 65°, or upwards, is necessary to the prevalence of yellow fever in our valley, and an average summer heat of 60°, or more, with a yearly heat of 40°, or upwards, is necessary to the production of autumnal fever. Thus, as a general law, yellow and autumnal fevers are in direct proportion to the heat of summer, while the continued fevers are in the reverse proportion. Yet there is one point of view under which they conform to the same law. They all prevail most where the range between winter and summer is least. Thus, at St. Louis, the range is 42°, and yellow fever is unknown. At Natchez, it is 29°, and the fever prevails occasionally; at Havana only 10°, and there the yellow fever is as constantly present as typhus fever in Dublin. In the latitude represented by Cincinnati, the range is 40°, and the prevalence of autumnal fever is moderate. In that represented by Bâton Rouge, the range is 28°, and the fever prevails every year as certainly as continued fever prevails in Glasgow or Edinburgh.

The various questions relating to the local, or spontaneous origin of typhous fevers, their propagation by contagion, their classification, morbid anatomy, pathology, and treatment, are ably discussed and philosophically investigated; and, particularly in reference to the subject of treatment, Dr. Drake has brought forward some ingenious and original suggestions which will prove highly valuable to the practitioner. We are especially pleased with his remarks concerning the *mode* and the *time* for resorting to the use of water, and the indications to be met in its application.

Concerning the relation of any special anatomical lesion to the general pathology, or distinctive classification of varieties of typhous fever, he concludes his argument in the following statement:—

> It is well known that lesions in continued fever are not limited to the cavities which have been named, (the brain and abdomen), but are found likewise in the chest; and these are so frequent that, if we constitute as species the other forms, we might consistently establish a third—the thoracic or pulmonary. We should then have the cerebral or typhus mitior of the British writers—the abdominal typhus or

typhoid affection of the French and German—and the pneumonia typhoides of the American. These designations are founded in nature and may be retained, but they should be understood to express only varieties and modifications of a single species. In certain countries or classes of people one variety may prevail for a time, in others, another—then, again, all may be present in the same town or family. Even the whole of these lesions are not unfrequently found in a single *post mortem* examination. The truth is, that we must admit a constitutional typhous diathesis, with varying localizations; and not specifically distinct, primary local inflammations, generating fever, as in the phlegmasiæ. If this be admitted, it follows as a corollary, that the labors of the Parisian school have simply made us acquainted with a form of typhous not peculiar to their city, nor even epidemic there, but sporadically present among them for some time past: not absolutely, but relatively to other forms, more prevalent in that city than elsewhere.

Eruptive Fevers.—These important but familiar maladies receive, at Dr. Drake's hands, the same thorough and practical examination as the more ostentatious members of the great family whose history he gives; and he has succeeded in presenting the leading points in their pathology and treatment in a striking and clear light His account of Scarlatina is especially interesting. As concerns the treatment of this malady, he bears most positive testimony in favor of the free use of cold water by affusion.

The history which our author gives of Epidemic Erysipelas, as it has prevailed in our country, constitutes the most complete epitome on the subject that we have met with. The terrific fatality which epidemics of this disease have so often assumed renders its history worthy of all the attention that has been bestowed upon it. Probably no epidemic malady has ever more completely baffled the skill of medical men in the localities where Erysipelas has prevailed;—in some, certainly, within the writer's knowledge, no disease has ever given occasion to so great opprobrium to the profession, because of the varying, and too often, unsuccessful treatment adopted by medical men at the outbreak of such epidemics. But, happily, in the hands of those physicians who have clearly apprehended the leading facts and principles relating to the pathology of the malady, and its therapeutical indications, epidemic erysipelas has not been found particularly incorrigible in treatment. Dr. Drake's conclusions concerning the proper mode of treatment, are entitled to great confidence, gleaned, as were his data, from many and various localities where epidemics of this disease had prevailed.

We need a fuller history of these epidemics, and it is desirable that those physicians who have had experience in treating such erysipelatous fevers should more fully and carefully communicate the results of their observations. The most valuable communications of this kind which we have met with, were made through this Journal, by H. N. Bennett, M. D., of Bridgeport, Ct. (*N. Y. Jour. Med.*, May, 1848, and July, 1853), in connection with the last of which may be found a bibliography of similar contributions.

In the last part of Dr. Drake's work, which is devoted to the consideration of Phlogistic Fevers, or the Phlegmasiæ, is presented a very complete *resumé* of all the leading facts relating to the etiology, pathology and therapeutic management of these most important inflammatory affections; together with an account of all the points of special interest connected with the endemic, epidemic, or particular local histories of any of the phlegmasiæ. Our author's method of arrangement and mode of discussion of these subjects are admirably adapted to the wants of those who would consult this treatise for immediately practical purposes; while he at the same time starts various physiological, pathological, and statistical inquiries, which his readers may profitably pursue. Of the diseases that receive a particularly full consideration, may be mentioned epidemic Cerebro-Spinal Meningitis, Acute Rheumatism, Pulmonary Inflammations, —including the various types and complications of pneumonia; and Phthisis Pulmonalis. Under the latter head, Dr. Drake has an interesting chapter on the climatic, etiological and prophylactic relations of this ruthless destroyer.

His account of Cerebro-Spinal Meningitis, as witnessed in its endemic or epidemic prevalence in the South and West, is highly satisfactory, and will be read with deep interest by those who have been called to treat this anomalous zymotic affection, which has its special seat in organs and tissues that are usually quite secure from any primary disease from meteoric agencies.

We must here close our examination of this greatest of American Medical works,—a work that, in the main, is as far above criticism as its lamented author exceeded all others in familiarity with the data upon which the treatise is based.

The task which Dr. Drake assigned to himself was as stupendous in the undertaking as it was glorious in its prospective results; and the entire profession, yea, the American nation, may properly express their gratitude that he was permitted so nearly to perfect his work. Indeed, the treatise, as now presented, may be justly considered as *complete*, so successfully have its worthy editors accomplished their duty of arranging and preparing for the press the manuscripts upon which Death found the learned author busily engaged. E. H.

ART. IX.—*The Transactions of the American Medical Association.* Instituted 1847. Vol. VII. New York: CHARLES B. NORTON, 1854. 8vo., pp. 668.

THE early appearance of this volume is peculiarly gratifying; first, because we are a "fast people," and desire to see the early fruits of our labors; and, second, because of the circumstances under which the volume appears. Our readers are aware that heretofore the *Transactions* have issued from the Philadelphia press, and that they seldom appeared much within a year after the meeting of the Association. At the late meeting held in St. Louis, the Committee on Nominations selected a majority of the members of the publishing committee residing in New York. Motions to amend their report were strenuously urged, but finally lost, and the report of the committee adopted, which gave to New York the credit of issuing the *Transactions* of the present year.

To the manner in which the Publishing Committee have discharged their trust, we believe no exceptions can be taken. The volume has made its appearance in good season, and with a dispatch highly creditable to the efficiency of the committee. The typography is better than any previous volume, and its general appearance contrasts most favorably with the Philadelphia editions.

Of the contents of the volume we shall proceed briefly to speak. As a whole, it contains less matter of general interest than any of its predecessors. There are no voluntary communications, and a less number of reports on practical subjects than previously. Still, it is by no means a volume devoid of interest, and as one of a series of annual publications, holds an important position in the Series.

Following the Proceedings of the Seventh Annual Meeting of the Association, which have already been published in this Journal,* we have the:—

Report of the Committee on Medical Education.—This report was prepared by the Chairman of the Committee, Prof. Cabell, of the University of Virginia, who, it will be remembered, has stood prominent among the advocates of radical reform in our present system of medical education. The report is marked by much clearness of argument, and would have produced a profound impression upon the great sentiment of the Association, had it been read before that body in its assembled capacity. The following resolutions accompanied the report, and contain a summary of the principles embodied in it.

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* See *New York Jour. of Med.*, vol. xiii., N. S., p. 137.

1. *Resolved*, That the views and recommendations heretofore expressed by this Association, respecting the importance of establishing a uniform standard of preliminary education, of extending the term of lectures, and especially of greatly elevating the standard of professional attainments requisite to graduation, be hereby reaffirmed.

2. *Resolved*, That this Association approves and recommends the practice of daily examinations by each professor, as essential for securing "that active, practical discipline" of the mind, which is one of the most important ends of collegiate instruction; and believes, not only that such a system might be easily put into operation, under an appropriate term of lectures, but that the whole ground-work of elementary medical instruction might be most advantageously assigned to the schools which may adopt that system, as a substitute for the very faulty one of private office instruction now in common use.

3. *Resolved*, That this Association cordially approves of the establishment of "private schools," duly organized for giving that species of instruction, which consists "in demonstrations" and other practical exercises, on the part of the student instead of the instructor, but still under his direction and superintendence, embracing the whole circle of clinical observation and practice, the use of the microscope, chemical manipulations, and the performance of surgical operations on the dead body; and would earnestly recommend such institutions to the patronage of those graduates who did not enjoy similar advantages during the period of their collegiate pupilage.

4. *Resolved*, That those medical colleges whose curriculum does not now include full courses of lectures on physiology and medical jurisprudence, be earnestly invited to make immediate provision for supplying the deficiency, and to require the professor of physiology to make an exposition of the outlines of comparative anatomy, to such extent, at least, as may be necessary to enable the student to appreciate the force of the evidence upon which the modern doctrines of physiology mainly rest.

5. *Resolved*, That to insure the efficient and beneficial operation of the proposed measures of reform, the Association considers it essential that some uniform system of examining candidates for admission into the ranks of the medical profession, *in addition to the collegiate examination for degrees*, should be adopted in all the States of the Union.

6. *Resolved*, That the Association regards as auspicious omens of future progress, the already improved character of our medical literature, and the evidence of an increasing desire, on the part of a respectable number of students, for a higher grade of medical education, as exhibited in the patronage extended to extra collegiate organizations for practical teaching; and that in view of such encouraging signs, it cherishes an abiding conviction that more thorough and general reforms will be ultimately, though gradually, accomplished.

Report of the Committee on the Epidemics of Kentucky, and Tennessee. By W. L. SUTTON, M. D., of Georgetown, Ky.

On Erysipelas. By R. S. HOLMES, M. D., of St. Louis, Mo.

On the Medical and Toxicological Properties of the Cryptogamic Plants of the United States. By F. P. PORCHER, M. D., of Charleston, S. C.

Report of the Epidemics of Ohio, Indiana and Michigan, for the years 1852 *and* 1853. By GEORGE MENDENHALL, M. D.

Report on the Epidemics of Louisiana, Mississippi, Arkansaw, and Texas, in the year 1853. By E. D. FENNER, M. D., of New Orleans, La.

These papers are all characterized by much zeal and labor, on the part of those who were engaged in their preparation, and, while they will in a practical point of view interest the present reader, will prove of great value to future members of our profession. There is, however, one feature in the Reports on Epidemics, upon which we are constrained to make a few remarks.

A general defect exists in published meteorological records, as hitherto made for even the most specific purpose, in their want of comparable character among themselves. Those published in these reports have one advantage, however, in giving comparison of two years at each locality. If they were such that the temperature and humidity of New Orleans, Cincinnati, and Detroit could be compared with precision, and by observations similarly made, it is obvious that whatever light a definite knowledge of these conditions may throw on the epidemics of any year, could be brought at once to bear on the subject. The three gentlemen whose records are given at these cities, are among the most able and accurate of scientific observers, and the hope of future use of their labors in such precise comparison, induces us to make some suggestions as to the form of record and of publication.

Temperature, amount of rain, and humidity, are the conditions affecting the general sanitary state, and epidemics particularly, so far as climate is known to affect them. The mean results of a month's observation, as given in the tables at these cities, are also hardly sufficient for the purpose of such an investigation. An important extreme may be lost in the contrast with one of an opposite character in the course of the month, and its significance in relation to some feature of an epidemic may wholly fail to appear. It would require little more space to give the temperature of the dry and the wet thermometer at two hours of the day, as at sunrise, or 7 A.M. and 2 P.M., and the amount of rain for each day of the summer months; leaving the winter months to come in in the usual summary. The barometric and wind and weather observations have no value in this connection, though their mean results are sufficiently important, as scientific data, to repay their publication anywhere.*

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* The observation of the *temperature of evaporation* is so essential and indispensable to a meteorological record for purposes of sanitary investigations, that it may be well to allude to the following method published in a circular of the Smithsonian Institution, showing with what facility it may be taken:—A thermometer bulb covered with muslin, kept wet by a conducting thread of wicking from a cup of water, is all that is necessary—all to be placed in a free shaded exposure as of the dry thermometer. No loss of time then occurs in its observation, and it is only necessary to renew the muslin and thread when encrusted with dust, and to keep water in the supply vessel. The instrument, once arranged, adds no labor of consequence to the common thermometric record.

The observations given in these reports, fail most in regard to amount of rain, and hygrometric observation. Those of Mr. Gronewig, of Germantown, Ohio, are obviously incorrect, as regards quantity of rain, as both the years 1851 and 1852 had more than the usual amount in Ohio, and the West generally. This quantity exceeded fifty inches in vertical depth of water fallen in each year for Southern Ohio. His gauge was evidently defective. The valuable hygrometric observations made here need only the use of English measures, and the actual record of the readings of the wet thermometer to make them extremely serviceable. At Cincinnati, Dr. Ray's observations unfortunately fail to embrace this primarily important condition of humidity, as do those of Mr. Long, at Georgetown, Ky., and Rev. Dr. Duffield, at Detroit. If inconvenient to these gentlemen to observe this instrument, there are others in various parts of this epidemic district who do so observe, and who would doubtless gladly furnish their results for the use of these reports.

The same, in regard to facility of procuring observations, may now be said of every portion of the United States, indeed, and it is only necessary for the authorities charged with the preparation of reviews of epidemics, and epidemic influences, to put themselves in connection with such meteorological observers, to obtain all the data necessary for a comparison, almost, or quite universal over the country in every year.

The deduction of humidity, in a definite per centage of saturation, from the observation of the wet bulb thermometer, is a somewhat difficult process in the absence of any English tables for the purpose. But the readings of the two instruments, the wet and dry bulbs, exhibit in their differences a palpable and obvious result in regard to humidity, which may be used almost as well as the final deduced values.

The illustration of these climatological conditions is very well made by Mr. Gronewig, in his communication in the report for Ohio. The use of the common or English measures should have been adhered to, however; and a connected or accompanying illustration of the statistics of epidemics, after the model of those of Dr. Barton of New Orleans, would at least greatly facilitate the inquiry into their mutual relations.

In the illustration of the amount of rain at Germantown, Ohio, the error of the tables is in part corrected; the amount being brought up to thirty inches or more for each year. This is still much too small.

To illustrate the importance of connecting the humidity with other conditions, and of placing all that is pertinent to the subject together in illustration, the curves of temperature and humidity for the epidemic summer of 1853 may be cited. As drawn by Mr. Gronewig, the temperature, of June particularly, is very high, and its per centage of humidity very low. This was true for every part of the Upper Mississippi valley, as well as for Ohio. By Dr. Barton's tables the reverse condition in regard to humidity is seen to have existed at New Orleans, without, however, any important extreme of temperature. The relative severity of epidemics at New Orleans and at Cincinnati during that summer may have a solution here. It is understood that Dr. Barton has in press a report of especial examinations of the Yellow Fever Epidemic, which may throw light on the point.

The number of able physicians* and others, now giving attention to precise climatological records, especially in the Mississippi Valley, is such that concert of action alone is necessary to give to these epidemic reports all the light derivable from that source. By giving the statistics such definite form as applies distinctively to this subject, they may be extended in the form of detail, previously alluded to, for such months as are shown to be important at the time in any district, without encumbering the tables with unnecessary matter.

From an extended inquiry, we learn that the names given below are part only of the members of the medical profession and others now engaged in valuable and precise observation of this sort in that part of the United States. A number of professors and scientific gentlemen might be named in the same districts who would, on solicitation, add the results of their labors, as in the case of Mr. Gronewig, Dr. Duffield, and others, in the present reports. The field is an inviting and attractive one, of more general interest also than that belonging to medical practice merely, and as such scientific gentlemen would no doubt gladly give their observations into the hands of the medical profession, whenever and wherever they will take up this important inquiry and enter upon discussion and deduction.*

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* As the subject is important, and the labor already given in this direction so considerable, it may not be improper to give the names of a few known to be aiding the general science of climatology, and this sanitary branch particularly, by valuable observations. The reports here noticed are all in the Mississippi Valley, and, therefore, only such as are resident there need now be named:

Drs. S. K. Jennings, Austin, Texas; E. H. Barton, New Orleans; John Swain, Ballardsville, Oldham Co., Ky.; Geo. Engelmann, St. Louis; John James, Alton, Ills.; Asa How, Dubuque, Iowa; E. C. Bidwell, Quasquita, Buchanan Co., Iowa; C. L. Anderson, St. Anthony's Falls, Minnesota; J. L. Pickard, Platteville, Grant Co., Wis.; M. K. Taylor, Brooklyn, Jackson Co., Mich.; S. B. Mead, Augusta, Ills.; Ray, Cincinnati; S. P. Hildreth, Marietta, Ohio; J. P. Kirtland, Cleveland, Ohio; Geo. Swesay, Gallipolis, Ohio; Hempstead, Portsmouth, Ohio; S. Patrick, Kanawha C. H., Kanawha Co., Va.; W. A. McNellay, Fayetteville, Tennessee; J. O. Harris, Ottawa, La Salle Co., Ills.; Patton, Lewisburg, Virginia; F. Ryhiner, Highland, Madison Co., Ills.; Prof. J. B. Lindsley, M. D., Nashville, Tennessee; Prof. A. P. Stewart, Lebanon, Tenn.; W. M. Stewart, Esq., Glenwood, near Clarksville, Tenn.; Rev. J. Miller, M. D., Millersburgh, Kentucky; Lawrence Young, Esq., Springdale, near Louisville, Ky.; J. E. Younglove, Esq., Bowling Green, Ky.; Jno. Chappellsmith, Esq., New Harmony, Indiana, (successor to Dr. D. D. Owen); Prof. J. L. Andrews, Marietta, Ohio; Prof. S. N. Sanford, Granville, Ohio; Rev. J. McD. Matthews, Hillsborough, Ohio; J. A. Lapham, Esq., Milwaukie, Wis.; Profs. Fairchild, Dascomb, and others, Oberlin, Ohio; Prof. A. W. Winchell, M. D., Ann Arbor, Michigan, etc., etc.

Prize Essay: On a New Method of Treating Ununited Fractures and Certain Deformities.—The successful essayist this year proved to be DAVID BRAINARD, M. D., Prof. of Surg. in Rush Medical College; Surgeon of the Illinois General Hospital, at Chicago; Corresponding Member of the Société de Chirurgie of Paris, etc., etc.

Before proceeding to an analysis of this Essay, we deem it necessary to advert to one circumstance connected with its history, which, though it does not detract from the merit of the investigations embodied within it, we can but regard as reflecting discredit upon the Association that bestowed upon it the annual prize. We have before us a pamphlet bearing the following title:—*Mémoire sur le Traitement des Fractures non Réunies et des Difformités des Os, par* DAVID BRAINARD, M. D., Professeur de Chirurgie au College Médical de l'Illinois, à Chicago, etc., Paris, 1854, and dedicated to M. LE BARON LARREY. This pamphlet, of which our Prize Essay is but a translation, was originally presented to the Society of Surgery, of Paris, by the author, and on the strength of which, we believe, he was elected a Corresponding Member of the Society. In the early part of the year 1854, it was published in Paris, under the imprint of J. B.

It may be worth while to state, that the mode of determining mean results in temperature, alluded to in the report for Kentucky and Tennessee as having been employed by Mr. Long, is preferable to that of Dr. Ray, which last is understood to be the mode adopted some years since by the Regents of the New York University. The defect of this mode is, that it introduces an observation of the morning following. The formula is, $x = \frac{a + 2b. + 2c. + a'}{6}$; in which a, b, and c are the hours 7, 2, and 9 respectively, and a' is 7 o'clock of the next morning; and similarly for any three hours near these which may be chosen for observation. The mean of two extreme hours is shown by recent observation to represent more truly the precise mean of all the hours of any day, and this is the value desired in daily statistics.

Baillière, in its present form, and, as it would appear, previously to its being submitted to the American Medical Association. The precedent established by this procedure, if followed out in future, resolves the Prize Committee of the Association into a committee of judges on recent publications—thus perverting the important object contemplated in the appointment of the committee.

This double triumph of his Essay must be peculiarly gratifying to the author, as evincing a wide appreciation of his talents and investigations. Yet we can but feel that, in submitting it, under the injunction of secrecy, after its foreign circulation, to the *American Medical Association* for its annual prize, he has not had sufficient regard for its *national* character and reputation. Representing in its Annual Transactions the progress of American Medicine, it but illy subserves this high purpose, when its prizes are awarded to essays already deferentially submitted to the criticisms of foreign societies, and which take the honor, if honor there be, in first publishing them to the world.

The object of this Essay is thus stated: 1st. To establish, by experiment, the principles upon which the treatment of ununited fractures should be conducted; and to show that these principles are applicable to the human subject. 2d. To propose a new method of treatment of certain deformities which result from true anchylosis,—union of fractures in an angular position, rachitic curvature, etc. It is divided into three parts:—1. Experimental researches on the effects of foreign bodies, when allowed to remain in contact with the osseous tissue, and on certain wounds of the bones. 2. Treatment of ununited fractures by subcutaneous perforation of bone. Cases treated in this manner. 3. Treatment of deformities of the bones by subcutaneous perforation. Experiments on this subject.

The author very properly disclaims all pretension to have been the first to devote attention to treatment of a similar kind. He, however, claims by implication to have first demonstrated the principles upon which such treatment is based, laid down the rules of its application, and contrived an instrument by which it could be carried into effect. These several points will appear in the brief analysis of his paper which we shall give.

The first fact to determine is, the effect of foreign bodies when allowed to remain in contact with bone. Foreign bodies are divided into metallic, and non-metallic, and the following are the conclusions at which the author arrives, after experimenting with various substances belonging to both classes:—

1. Foreign bodies, of every kind, placed, or allowed to remain in

contact with any part of a bone, in a manner to keep up suppuration; produce absorption of it, and have no tendency whatever to give rise to the production of callus. The use of setons, pegs, wires, and foreign bodies of every description, as a means of promoting the formation of callus, is a practice not founded on correct principles, and is often dangerous. The seton is more properly employed for the purpose of dividing a bone, or keeping up a false articulation, than for uniting it.

2. Sequestra and foreign bodies, imbedded in bone, may be brought to the surface when, by perforation or otherwise, instruments or ligatures can be so attached to them as to draw them permanently, with but a moderate degree of force, in that direction. As soon as they press against the living bone, they cause its absorption in the direction toward which they are drawn.

3. That power of absorption of bony tissue attributed to the periosteum and the medullary membrane, exists also in the substance of the bone itself, as is proved by the insertion of pegs into perforations of bone, absorption taking place around them, not only at the surfaces, but at all the intervening points.

The next subject of inquiry is the *effects of foreign bodies on the formation of callus.* The examples cited to illustrate this point, are cases of fracture of the bone, and the detachment of fragments which lie between the extremities, and have prevented union; and the conclusion arrived at in connection with the preceding facts is, that "foreign bodies produce absorption of callus when placed in contact with it." The action of medicinal solutions, when placed in contact with bones, was found to be similar to that of foreign bodies.

The circumstances in which wounds of bone most readily give rise to callus, or unite without it, are considered under the following heads: 1. Simple wounds of bone without fracture. 2. Simple fracture. 3. Compound wounds, and compound fractures. Nothing new is offered in the discussion which follows; in the first two conditions, bone heals by the first intention, in the last by granulation and suppuration.

Having thus established and illustrated the principles of his investigation, the author proceeds to apply them to the treatment of ununited fractures. The following are his views of the indications of treatment in this class of affections:

> The object to be desired in these cases is, as it appears to me, the production, by subcutaneous wound, of fresh osseous surfaces opposite to and in contact with each other, with such division of the soft parts as will excite a moderate inflammation, without suppuration, around the false joint; and a wound of the bones, of considerable depth and size, capable of producing that vascularity and softening always noticed in fractured extremities of bones, before union takes place. These fresh surfaces, in some cases, require to be numerous, and equal in the aggregate to those produced by resection; and the

operation by which they are made should be repeated from time to time. Hence, it must be an operation which does not expose to violent inflammation, or give great pain. It should, moreover, be one capable of being employed in connection with other methods, recognized as useful or necessary to preserve immobility.

To accomplish these objects, Prof. Brainard has invented an instrument, for perforating the fractured extremities subcutaneously, which is awl-shaped, and capable of penetrating the hardest bone or ivory with facility. The method of operating is thus described:—

In case of an oblique fracture, or one with overlapping, the skin is perforated with the instrument, at such a point as to enable it to be carried through the ends of the fragments, to wound their surfaces and transfix whatever tissue may be placed between them. After having transfixed them in one direction, it is withdrawn from the bone, but not from the skin, its direction changed, and another perforation made; and this operation is repeated as often as may be desired. It is better to commence, in most cases, with not more than two or three perforations, in order that the effect produced shall not be too severe. On withdrawing the instrument, collodion is to be placed upon the point of puncture. * * * In case of fracture where the extremities are differently situated, it must be applied in a different manner, and in such a way as to effect the object proposed, viz.: profound as well as superficial wounds of the extremity of the fragments; and a division of the tissue which is seated between them. * * * Each of the different parts of the operation which we have described is essential to its success. The division of the tissue situated between the fragments, would, of itself, have but little effect; combined with scratching their extremities, its effect is not great, as we have demonstrated by experiment; but when accompanied by wounds of the bone, there is a very permanent and efficient action produced, which puts the extremities in a condition to join the soft parts, in effecting union. This can be rendered greater, by increasing the number of punctures, or using an instrument of large size. The operation is to be followed by the application of suitable splints, or apparatus for the purpose of securing immobility. It should be repeated from time to time, and carried to a greater or less extent, as the effects produced may indicate.

Seven cases, in which this practice was successfully resorted to, are appended; three only occurred in the practice of the author, two are reported by Prof. Mussey, of Cincinnati, and two by Dr. Jewett of this State.

The concluding chapter of this essay is on the *Application of Perforation of the Bones to the Cure of Certain Deformities, by means of Interstitial Fracture or Bending.* The facts which his experiments establish are: 1. Perforation of bone may be employed to weaken it in such a manner as to cause it to fracture readily, at the point desired, with but a moderate degree of force, and but little pain. 2. It may be employed in the same manner, so that the bone may be bent in part, and only fracture in some of its fibres, without division of the periostum. The cases to which this treatment is adapted are: anchylosis, angularity of the fragments in fracture, deformities from rachitis, etc. The method of applying the treatment depends upon the object to be attained. If it is to weaken the bone to facilitate fracture, several perforations may be made in one direction, and, withdrawing the instrument, they may be repeated in another, five perforations being sufficient to divide about two-thirds of the bone (the instrument being of suitable size), and the inflammation excited will soften the other third in a few days, and render the fracture easy. If it is desired to effect a partial fracture, the perforation should be mostly on one side; if to bend the bone merely, the perforation should be from three different points, and the gradual application of force applied.

From this brief analysis, it will be perceived that the chief merit of the Essay consists in illustrating by experiments certain facts in surgical pathology and practice, hitherto known. For it has long been understood that the effect of foreign bodies, when left in contact with bone, was destructive of its tissue at the point of contact. Proceeding upon this knowledge, bone has been purposely divided by a wire placed around it, and tightened at proper intervals; the principle of its action being simply that of exciting suppurative inflammation. It is on this principle that foreign bodies have been removed from bones, sequestra from the living bone around them, etc.

In discussing the various kinds of treatment heretofore adopted in ununited fractures, the author's accuracy and logic do not impress us very favorably. He supposes the object of Dr. Physick, in using the seton, was, "to produce between the fragments that semi-cartilaginous tissue often noticed as forming the walls of old fistulæ," and does not perceive "why the recommendation of the seton for this purpose, for a long time, should be more an absurdity than its use for a few days, for the purpose of producing an acute inflammation of the soft parts." Dr. Physick, however, supposed that, "by exciting inflammation and suppuration, granulations should rise on the ends of the bone, which, uniting and afterwards ossifying, would form the bony union that was wanting." It is plain, therefore, that the length of time which the seton should remain between the fragments cannot be specified. Presuming that the success of the seton in certain cases might be urged by some, as invalidating the principles which he has endeavored to establish, Prof. Brainard anticipates the objection with the following reply: "The success of the seton, as well as of all similar methods, does not result from any tendency to favor the formation of callus, but from the induration of the soft parts produced by it." And yet, on a preceding page, he notices the following fact in regard to Dr. Physick's case: "At the death of the patient, several years afterwards, a callus was found, divided into two parts by a perforation in the middle, which marked the point where the seton had been placed." It is perfectly clear that the callus was formed in this case in consequence of the *presence* of the seton.

In regard to the method of treatment proposed by Prof. Brainard, we recollect to have seen a patient successfully treated in a similar manner by Dr. Detmold, of this city, in 1850. It was supposed by this surgeon, if we rightly recollect the remarks which he made on the occasion, that the " chips " made by the perforator would become the centres of ossification, and that in this manner osseous pins might be formed, retaining the bones in apposition until consolidation was complete. The cases reported by Professor Brainard are too few to judge correctly of the importance of the operation. It commends itself from its apparent simplicity, freedom from pain, (which, indeed, is no great objection in our day), and, thus far, its successful issue, in the cases to which it has been applied.

The concluding paper contains biographical sketches of the sufferers by the Norwalk tragedy. It was drawn up by the Chairman of the Committee, Dr. JOSEPH M. SMITH, and is a most appropriate tribute to the memory of those unfortunate men.

BIBLIOGRAPHICAL NOTICES.

ART. X.—*The Microscopic Anatomy of the Human Body in Health and Disease. Illustrated with numerous Drawings in Color.* By ARTHUR HILL HASSALL, M. B., Member of the Royal College of Surgeons of England, etc., etc. With Additions to the Text, and Plates, and an Introduction, containing Instructions in Microscopic Manipulations, by HENRY VAN ARSDALE, M. D. In two volumes. New York: Samuel S. and William Wood, 1854. 8vo., pp. 560 and 169.

SOME three years since, we had occasion to notice the appearance of Mr. Hassall's work on Microscopic Anatomy, republished in this country. We now have the pleasure of calling the attention of our readers again to this standard treatise, brought out under the auspices of the Messrs. Wood of this city.

It will be remembered that the American edition was edited by Dr. Van Arsdale, of this city, who prefaced the first volume with a very instructive and necessary section on the use of the microscope, and on the best methods of preparing and preserving microscopical objects. The student cannot fail to profit much by an attentive perusal of this introduction, both in manipulating with the instrument, and in correctly understanding the principles of this beautiful science. We notice on the second page of Dr. Van Arsdale's introduction, a piece of advice which students would do well to heed. "It is a very common error," says the editor, "to suppose that cheap microscopes will answer as well for low powers as more expensive ones: that, for instance, there is no difference in a one-inch object glass and common eye-piece of an ordinary microscope, and the same focus object-glass and eye-piece of a good instrument: hence, many persons, about commencing the study of microscopic anatomy, and believing that, for the study of injected preparations, a power of one hundred diameters will, in most cases, answer, purchase the cheapest instrument they can obtain with that degree of magnifying power—qualities that are rarely found to exist in any degree in the cheaper microscope."

Not less important to the student is the following: "An error, somewhat similar, committed by beginners, is in supposing that a low-priced microscope (and usually, therefore, a poor one), is sufficiently good to commence with, and that a more perfect instrument, with higher powers, may be purchased when more familiar with its use. This is not only poor economy, but, as already stated, such an instrument gives unsatisfactory, and often false views: it being much better economy were this regarded, and infinitely more satisfactory, to purchase a good instrument, with low powers, at a fair price, to which the higher powers may be added as means allow. Those who can afford a good microscope, and yet purchase a poor one, commence their studies under great disadvantages."

The additions of the editor, throughout the entire volume, are of great value, and greatly facilitate the progress of the learner. At the conclusion of each subject, he gives the best method of preparing the tissue, or fluid, under consideration, for examination, and also for preservation. With these plain and explicit instructions before him, the observer is prepared to master every difficulty which may present in the manipulation of the instrument, and in the preparation of the specimen.

The second volume consists entirely of plates, of large size, beautifully and accurately colored. The American edition contains a large number of additional plates, highly artistic in their execution, and supplying important omissions in the English edition.

We regard the appearance of this work, emanating from the present publishers, at a period when medical students are so generally turning their attention to microscopical studies, as a fortunate circumstance.

In conclusion, we would express the conviction, forced upon us after several years' consultation of similar works, while pursuing microscopical studies, that there is none better arranged and illustrated, and none which will give so general satisfaction as that of Mr. Hassall, edited by Dr. Van Arsdale.

Art. XI.—*On the Nature, Signs, and Treatment of Childbed Fevers; in a Series of letters addressed to the Students of his class.* By Charles D. Meigs, M. D., Prof. of Midwifery and the Diseases of Women and Children in Jefferson Medical College, Philadelphia, etc., etc. Philadelphia: Blanchard & Lea, 1854, 8vo. pp. 362.

This volume comprises a series of twenty-nine letters, on one of the most difficult, and in some respects interesting points in Obstetric Medicine. For if there is one disease which more than another has demanded, and received, investigation at the hand of the practitioner of our art, it is that commonly recognized under the name of Childbed Fever. That all investigations should prove alike successful is not to be supposed. In the present one we find that the author, a practitioner of more than forty years, has collected the best and most reliable opinions of many writers on this disease, and applying to them the test of clinical experience has produced a volume superior, in many respects, to any which has heretofore come from his pen. As to the style of the letters, we see manifested in them no marked evidence of improvement, compared with that characterizing the author's volume, *On Woman and her Diseases.* It is clearly of the same class of writing—writings which, we may say, are peculiar to the distinguished author, now passed the period of three-score years in life. As the results of a critical inquiry into the literature of the disease, and a large and long experience in practice, this volume will be received by the Profession with distinguished favor, and we feel warranted in commending it to the favorable attention of our readers.

Art. XII.—*A Treatise on Fractures in the Vicinity of Joints, and on certain forms of Accidental and Congenital Dislocations.* By Robert W. Smith, M. D., M. R. I. A., Fellow of the Royal College of Surgeons of Ireland, etc., etc. Dublin: Hodges & Smith; New York: S. S. & W. Wood, 1854, 8vo. pp. 314.

We regard this as the best work extant, on the subject of Fractures in the Vicinity of Joints. Its discusses intelligibly and practically some of the most troublesome points in Surgical practice—obscure and complicated points in the management of accidents affecting the articulations. We most heartily commend it to the better consideration of the Profession.

Art. XIII.—*Nature in Disease, illustrated in various Discourses and Essays. To which are added Miscellaneous Writings, chiefly on Medical subjects.* By Jacob Bigelow, M. D., Professor of Materia Medica in Harvard University, etc., etc. Boston: Ticknor & Fields, 1854, 12mo. pp. 391.

This volume comprises, as its title indicates, a collection of Miscellaneous Papers, principally on Medical subjects, written or published at intervals, by Dr. Bigelow, during a long and active professional life. The following is a list of its contents: 1*st*, *On Self-limited Diseases;* 2*d*, *On the Treatment of Diseases;* 3*d*, *Practical Views on Medical Education; 4th, Report on Homœopathy;* 5*th*, *On the Medical Profession and Quackery; 6th, On Gout, and its Treatment;* 7*th*, *On the Treatment of Injuries occasioned by Fire and heated Substances; 8th, On the Burial of the Dead, and the Cemetery at Mt. Auburn; 9th, Remarks and Experiments on Pneumothorax;* 10*th*, *On the Pharmacopœia of the U. S.;* 11*th*, *On the Mucuna Pruriens, with Remarks on the Irritability of Different Textures;* 12*th*, *On the Poisonous Effects of the American Partridge;* 13*th*, *On Coffee and Tea, and their Medicinal Effects;* 14*th*, *Report on the Action of Cochituate Water on Lead Pipes, etc.;* 15*th*, *On the History and Use of Tobacco;* 16*th*, *On the Early History of Medicine;* 17*th*, *An Address delivered before the American Academy of Arts and Sciences in* 1852.

ART. XIV.—*Human Physiology; designed for Colleges, and the higher Classes in Schools, and for General Reading.* By WORTHINGTON HOOKER, M. D., Prof. of Theory and Practice of Medicine in Yale College, etc. Illustrated by nearly 200 engravings. New York: Farmer, Brace & Co., 1854, 12mo. pp. 389.

A CAREFUL examination of this work has left upon our mind favorable impressions of its value, and adaptation to supply the wants of those for whom it was designed. We therefore commend it to the favorable attention of the public.

ART. XV.—*A Dictionary of Medical Terminology, Dental Surgery, and the Collateral Sciences.* By CHAPIN A. HARRIS, M. D., D. D. S., Professor of the Principles of Dental Surgery in the Baltimore College, etc., etc. Second Edition, carefully revised and enlarged. Philadelphia: Lindsay & Blakiston, 1855, 8vo. pp. 800.

THE first edition of this work was designed principally for the student and practitioner of Dentistry. Subsequent reflection has convinced the author, rightly we think, that the scope of professional education of the Dentist required a more extended view of the subject than was presented in that edition; consequently, in the present, he has added those words and phrases purposely omitted in the first, and also those that have subsequently been added to the literature of the subjects, thus making the work a complete Dictionary of Medicine and Dental Surgery. As there is no work extant so well adapted to supply the wants of the student and practitioner of Dentistry, we feel assured that it will be received by them with distinguished favor.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On the Nature and Causes of Green Vomiting.—**Dr. Frazer** details (*Dub. Hospl. Gaz.*) several cases of Green Vomiting, and adds the following remarks:—I consider this green matter is composed of the blood in an altered and modified condition, the discharge being altogether of a hæmorrhagic character. Repeated microscopic observation, in those instances in which I have noticed its occurrence for some time past, has confirmed my ideas regarding its nature, and examination shows that the little fragments of which it consists are various-sized clots, containing abundance of blood globules: this alone might decide the inquiry; however, I am desirous of placing it on other grounds, in addition to such as are afforded by the microscope. I may, therefore, bring forward the following arguments which further support the view I have taken. 1st. The form of vomiting alluded to occurs in diseases where there is much congestion, and inflammatory engorgement of the vessels of the stomach or intestines, as in gastritis, and fevers with gastric complications; and after death we find patches of softening in the mucous membrane, or decided marks of excessive vascularity; at least such has been the case in those fatal instances where I have had the opportunity of inspecting the stomach. 2dly. The coincidence of vomiting of ordinary blood, in addition to the green matter, which sometimes occurs, and as was noticed, for example, in the case of the woman with enlarged spleen already alluded to; besides, I have remarked, that in many cases of fever which were attended with this peculiar green discharge, hæmorrhagic purpuric eruptions were frequently seen. 3dly. We have the physical properties of this substance; it forms small green clots in the fluid, in addition to tinging it with its peculiar hue, as we might expect blood to do. 4thly. We must consider that a similar green color occurs in various parts of the body, and under very dissimilar circumstances. This is, perhaps, the most interesting branch of our subject, and one on which medical records afford little information; as instances of this change we have, among other examples: The peculiar green hue of contusions that are of some standing, and the green color of the ecchymoses that occur on the extremities in land scurvy, many cases of which were noticed in the hospitals in the late years of famine.—The color of the great intestine in various cases of fatal dysentery, and of the mucous tissue of the stomach in inflammatory gastric affections.—The grass-green appearance of the interior of the bladder, and of the kidneys after death, in many acute or sub-acute diseases.—The well-known greenish tinge often seen in moist gangrenous affections.—The color of the body as it begins to decay after death.—The green hue of coagulable lymph, and of purulent exudations in bad constitutions, and many other similar facts in pathology that might be enumerated, which are as yet unexplained.

On Physical Diagnosis of Fevers. By E. A. Parkes, M. B.—There are two diseases not unlike typhoid, to which I wish now to direct your attention, and which may be mistaken, and are mistaken for typhoid—one is *pyæmia*, so called, but it is quite untrue there is any pus in the blood; the other is *acute tuberculosis*. In pyæmia we have its positive indications absent, such as inflamed joints, diseased veins, etc.; we have septic materials in the blood in pyæmia, and a vital change perhaps in that fluid, but you cannot well mistake it for typhoid fever. There is another disease, however, which has been lately quite mistaken for typhoid—this is *acute tuberculosis*, in which, more or less, every organ in the body becomes studded with tubercles, and known in England and the Continent as "miliary tubercles," in the intestines, heart, lungs, and in the female even in the uterus and pelvic viscera. It is a disease common in younger patients. The disease, however, is extremely rapid, in three or four weeks usually coming to an end. It is attended with febrile symptoms, furred dry tongue; the symptoms, in fact, all like as possible of typhoid. It runs parallel, so to speak, with typhoid, but is not typhoid. Acute tuberculosis is often mistaken for typhoid, but the *rose-spots are absent*. In these cases the best observers will make mistakes. These tubercular deposits are miliary; they are uniform over the lung. We have no opportunity of comparing disease in one part of the lung with another; no stethoscopic indications, in fact, but those of bronchitis. Again, in this disease of acute tuberculosis, the head symptoms are always most intense, from deposit, in the shape of acute meningitis; the latter produced by deposit of tubercle. It is, in fact, something quite out of the common way to find bad headache in typhoid; torpor is more common; and according as the disease advances, as a general rule, head symptoms are found to go away. You will find, also, if you study these cases in the wards of the hospital for yourself, that the pupils are dilated in meningitis, and that the special senses of hearing, taste, smell, etc., are all more or less affected. Deafness, for instance, is common; and, as I have just said, you will have most intense headache. Again, in one disease the abdominal symptoms will sieze your attention; in the other, the head or chest symptoms. Diarrhœa is not so frequent in one; while in the other it is almost specific. In acute tuberculosis, you will not find the intestinal glands red and inflamed; in the other affection we are speaking of, it is very characteristic after death. The typhoid stools are liquid, yellow, or brown, containing albumen, and coloring matter of bile; this singular substance rendered mahogany-color by nitric acid. In hospital I would advise you to familiarize yourselves with all these circumstances.

To sum up the whole matter, then, you will find that in these two diseases, confounded by superficial observers, we have a prominence, at the bedside, of head symptoms in one, and abdominal symptoms in the other. We have symptoms also of pyrexia in one. We may have "typhoid pneumonia," using these words now in a different sense, "typhoid" as an adjective; with all the other differential signs already indicated. Then bad influenza, with capillary bronchitis, may also be mistaken for one of these diseases, purulent meningitis and a disease lately described in Ireland "cerebro-spinal meningitis."—*Dublin Med. Press.*

Death from Chloroform.—The following remarks we take from the *Medical Circular*:—Several operations were performed at the hospital last Wednesday, but after we had left, not expecting any thing of greater moment, a poor man was admitted with bad retention of urine. Great difficulty was found in passing the instrument, till it was at last arranged to try again under the effect of chloroform; the man was scarcely brought under its full action when he began to snore as if something was wrong; his face became suffused and red, the inspirations very seriously embarrassed. Attention was at once riveted on these signs of impending danger, and cold water was freely dashed over the face and chest, the root of the tongue was drawn forward and artificial respiration tried; some signs of reaction set in, but they were only of temporary duration. Galvanism was tried, but all was of no avail, the man was dead.

At the post-mortem, as we had almost anticipated, having seen the disease now so often, as described by Dr. Quain, there was a large, soft, and remarkably flabby heart; on examination under the microscope, every fibre in the left ventricle appeared to be undergoing fatty degeneration; the lungs were also congested; the poor man was only 29 years old, but appeared almost double that age. It appears rather too clear, that where such disease exists, as we said on a former occasion, there is very great risk in exhibiting chloroform. Mr. Erichsen, who used the utmost skill, and had recourse to every possible mode of resuscitation in the case, made some able references to the subject this week. We do not believe such cases will lead to a discontinuance of chloroform, but rather to more caution, and in minor operations a substitution of ice, as recommended by Dr. Arnott.

Fatal Asphyxia from Impaction of a Detached Bronchial Gland in the Larynx.—At the Royal Medical and Chirurgical Society (May 9th), Mr. George Edwards, of Wolverhampton, detailed the following interesting case, which occurred in a child of eight years of age, who, while at play, was suddenly seized with symptoms as of a fit. He was quickly carried home, and became violently convulsed, although retaining consciousness and the power of utterance; the countenance became extremely anxious, and he uttered the expression that he should die. In the hurry of the moment there was no opportunity of getting any distinct knowledge of the previous history, beyond the surmise that the boy has swallowed something. The trachea was immediately opened, a little air issued from the opening, artificial respiration was attempted, but without effect, as the child gave but two gasps after the operation, and died. The post-mortem examination revealed the presence of a foreign body touching the under surface of the epiglottis, and extending through the rima glottidis into the larynx; the substance was whitish, and covered with mucus; on a very slight examination, it was evident that the body was a bronchial gland. Upon slitting open the trachea, the spot from whence the gland had issued was soon observed; it was on the posterior part of the right side, just above the bronchial bifurcation; the opening was ragged and irregular, and communicated with a cavity behind, sufficiently large to contain a nutmeg. No other evidence of disease was observed.—*Dublin Hosp. Gazette.*

Chloride of Zinc as a Caustic.—In many cases it is of great importance, in the use of choloride of zinc as a caustic, that it should not run. Such a one is at present under the care of Mr. Cock, of Guy's Hospital, in which it is being used to destroy a polypoid growth of the nose, part of which has been extracted. A paste made with flour was first tried, but this was inconveniently moist, and liable to run. Mr. Cock now uses plaster of Paris, which answers admirably. The paste may be made of suitable consistence, and it does not afterwards become in any degree more liquid. The duration of the pain, after its use in this way, is generally much less than if it be used in a paste more liable to liquefy.—*Medical Times and Gazette.*

Simulated or "Phantom" Tumors.—To state them *seriatim*, we have the following, as the chief conditions on which these variable tumors may depend:—1. Distention of the bladder. 2. Solid fæcal accumulations. 3. Irregular contractions of the intestine at two points, and distention of the intervening portion with flatus or with fluid fæces. 4. Spasmodic rigidity of a part of the abdominal parietes. It may, perhaps, seem almost superfluous to add the last, but practically, it is one of the most frequent sources of deception. An hysterical patient is quite capable of making a circumscribed portion of the abdominal wall rigid and hard, while the rest remains comparatively flaccid; and even in a person of calm, nervous system, the same condition may be produced by an instinctive reflex act, for the protection of a part of the belly which is tender on pressure. The recti muscles are peculiarly apt to be the seat of these contractions, which may, however, also occur in the lateral regions of the abdomen. It is rare, perhaps, for any one of the above-mentioned causes to exist singly and uncomplicated by any of the others. Neither of the first two, indeed, unless exaggerated by one or other of the latter, could properly rank as a "phantom" tumor. Hardened masses of fæces are probably, however, the most frequent of the exciting causes of the affection. By the irritation produced by their lodgment, the intestines are made to contract irregularly, and local tenderness is also induced; which latter, in its turn, acts as an excitant, in producing reflex rigidity of a part of the abdominal parietes. It has been observed of phantom tumors, that they are by much more frequent on the right than the left side, and that not rarely there are present, in connection with them, indications of renal irritation. Both of these circumstances are probably to be explained by reference to the facilities afforded by the cœcum and ascending colon for the delay and accumulation of scybalous fæces. The period of early adult life would appear to be the one most liable to the development of this chain of symptoms. The simulated tumor in question is by no means met with only in the female sex, some of the most marked examples of it that we have seen, having been in young men. As it regards treatment, that should, of course, be modified according to the peculiar circumstances of the case. A brisk purgative will probably be a remedy almost always useful, and afterwards a course of nervine tonics, or perhaps of anti-spasmodics, may be exhibited with benefit. The chief importance of the cases is in the lesson they convey as to the necessity for great caution before pronouncing positively as to the existence of an abdominal tumor. The surgeon should always be content, in doubtful cases, to examine his patient, on several separate occasions, before venturing an opinion. In most cases, probably, the careful employment of percussion and palpation will be competent to decide the question correctly; but if there be the least doubt remaining, the diagnosis should be deferred until, after the free action of a purgative, a second examination has been instituted.—*Medical Times and Gazette.*

SURGERY AND SURGICAL PATHOLOGY.

Successful Removal of the Superior Maxilla and Eye of the Right Side for an Encephaloid Tumor.—M. MAISONNEUVE recently presented to the Academy of Medicine, Paris, a patient, on whom he performed this operation, on the 27th of July. We take the following particulars of the case from the *Revue de Therapeutique*:—The patient, aged 46, had perceived a slight swelling, for six years, on the right inferior orbitary margin; for several years the tumor seemed to remain stationary; but, about 1850, its growth became apparent, and he consulted many physicians. He took, without benefit, various remedies, as preparations of iodine, cicuta, arsenic, etc. In 1853, the cheek greatly tumefied, became the seat of deep ulceration and lancinating pains. It was soon after this that the patient came to Paris, and placed himself under the care of M. Maisonneuve. The right side of the face was now enormously swollen, owing to the cancerous degeneration of the entire superior maxilla with the soft parts of the cheek, the orbit, the inferior eye-lid, and the right side of the nose, the centre of which was deeply ulcerated and discharged a fetid ichor. The patient could obtain no rest on account of the pain; left to himself, death was inevitable; and, as medical remedies had been faithfully employed, the only hope was in an operation. This had been pronounced impossible of execution by distinguished surgeons; but, considering that the disease had not invaded any vital organ, that the cervical ganglia were uncontaminated, and that there was no evidence of cachexia, Maisonneuve thought that there was some chance of saving the unfortunate person by an operation, and did not deem it right to refuse this last resource of art. The operation was accordingly performed on the 27th of July, 1854. The patient took chloroform. The operator made a longitudinal incision upon the right side of the nose, prolonged to the free border of the upper lip; the second incision began at the external commissure of the eye, and passed around the external border of the ulceration and joined the first at the alæ nasi. By dissection, the whole anterior portion of the tumor was exposed; a chain saw was then passed in at the spheno-maxillary fissure, and brought out under the zygomatic arch, and the included portion sawn through. The palatine arch and ascending apophyses of the superior maxilla were divided with Liston's forceps, and detaching the velum palati with the bistoury from its attachments, he everted the tumor, and completed its extirpation with the scissors. He now proceeded to extirpate the eye and destroy the diseased tissue within the orbit, the nasal fossæ, and frontal sinuses. The lips of the wound were then brought together, except a vacant space in the centre of the cheek, which was allowed to remain unclosed, the better to observe the progress of cicatrization. No bad results followed, and, in six weeks after the operation, he recovered his usual strength and flesh, and, by means of an obturator, ingeniously contrived by Charrière, the loss of substance is not perceived, and the speech is as perfect as ever. On examination, the disease proved to be osteo-sarcoma of the superior maxillary bone; the globe of the eye was free, but the tissues around it were diseased.

Case of Hydrocephalus, in which the Head was Tapped eight times.—Mr. Brown reports (*Assoc. Med. Jour.*) the case of a child, aged six months, suffering from chronic hydrocephalus, whose head was tapped eight times. At the first operation (August 6th), six ounces of serum were removed, and the head tightly strapped; condition much improved; 18th, head was as large as ever, six ounces removed; September 6th, head still larger, eleven ounces removed; 28th, twenty ounces; October 8th, eleven ounces; 18th, sixteen ounces; 25th, twelve ounces; Oct. 30th, abandoned tapping and inserted a seton of silk through the membranes of the brain, running it along the interior an inch before bringing it out; no immediate result followed, but large quantity of serum discharged. At the end of twenty-four hours there were vomiting, restlessness, and expression of pain; in thirty-six hours twitching of muscles were observed, with moaning and stupor. The seton was removed and the symptoms improved; the head was diminished in size, but soon began to enlarge; tapping was again performed, but the fluid quickly collected, and the case was abandoned to Nature. The head continued to enlarge, and the child died. On examination, a large wash-hand basin of serum was removed; the containing sac was formed by the brain, completely unfolded, and no thicker than the dura mater.

Amputation of the Tongue.—MAISONNEUVE recently removed the tongue for a cancerous affection. The patient was President of the Committee of Vaccination, and was accustomed to hold the small glass tubes, in which the matter was preserved, in his mouth. The sharp points of glass often wounded the tongue, and these punctures were followed by pimples; induration supervened, which he endeavored to remove by cauterizations. This aggravated the disease and led to deep ulceration; to this the actual cautery was applied, which only gave still greater activity to the affection. The tongue became enormously tumefied; speech was impossible, and only liquid diet could be used. Various remedies were employed without benefit, and amputation was finally decided upon. The operation is thus described by the operator:—

"The patient having been submitted to chloroform, I first incised, on the median line, the lower lip and the soft parts of the chin. Next, with a chain saw, I made the section of the lower jaw; the two branches of which being thus separated, I was enabled to grasp the tongue and draw it out. By a rapid dissection, the diseased organ was then separated from the healthy parts, as far as beyond its anterior half, and over an extent of one inch. The sublingual gland had also to be sacrificed. Ligatures were applied upon the important vessels, so as to prevent hæmorrhage. After this operation, the branches of the jaw were brought together, and maintained in contact, by means of thread rolled round the incisor and canine teeth; the ligatures placed upon the vessels were directed under the chin, in the inferior angle of the chin; and the edges of the division were united by means of the twisted suture. Notwithstanding the extreme gravity of this operation, no accident resulted. The union of the external parts was effected by first intention; the enormous loss of substance was rapidly repaired; the bones became consolidated; and, what is remarkable, forty days after the operation, the patient had recovered his speech, and the faculty of seizing and masticating his food. On examination, the tumor was found to belong to the class of epithelial cancroids."

Femoral Hernia.—A very instructive case of femoral hernia was operated on last week by Mr. Quain, in watching which, we must confess, we felt at fist a little at sea, till the *rationale* of the proceeding was explained to us by this very excellent operator and anatomist. Mr. Quain, to us, at first punctured something like what would be a hydrocele if the patient were a man; next, though wishing to avoid opening the sac, opened two sacs, and wound up, we believe, by leaving Gimbernat's ligament, the bowel, and the other classic parts of the hernia operation, unnoticed altogether. The case was that of Rose Turner, aged 75, admitted Oct. 30th. Mr. Quain, in some clinical remarks, gave the details of another similar case, the only two he had ever met in an immense experience; the woman had a large, troublesome, irreducible hernia in the present case, not at all tender, and curiously placid; she was ordered an enema with castor-oil, and a dose of laudanum to cause rest; the enema was repeated twice, but still the placid hernia could not be reduced; vomiting now setting in, Mr.

Quain advised the operation, which, after some hesitation, she agreed to.

Operation.—Having been partly placed under chloroform to dull the sensibility, a fuller examination of the tumor was made, Mr. Erichsen and Mr. Quain trying the taxis for a last time; it seemed, however, of no use, notwithstanding the curiously-placed state of the tumor. Mr. Quain now punctured the latter, when a full flow of serum followed, which he smelt, to be sure the bladder had not been in the way; making a good bold incision now, he laid open the tumor, still striving to reduce it, without going into what might be the sac; at last, however, he went very carefully into the latter on a director, but there was no bowel! We can quite fancy how puzzled some of our good country friends would be with such a case, without any one at hand to consult, late at night, out on the side of a mountain, in a Scottish land, or on an Irish common, where poor-law guardians pay so munificently. Mr. Quain and Mr. Erichsen now examined the parts, and on slitting them up on a director, and giving exit to a little serum, found behind this sac a smaller tumor, which required some skill to separate from the anterior sac; this posterior sac contained the bowel, apparently not strangulated; from the excessive vomiting of the patient, however, Mr. Quain thought it best to go on with the operation, and opening the second sac, reduced the bowel in the ordinary way; the chief practical fact in the case, as remarked by Mr. Quain, was, that you may have one sac over another, and bad hernia, though there are no external indications.—*Med. Circular.*

Strangulated Hernia, masked by a Tumor in the Groin. By J. Windsor.—On the 6th of March, 1854, I was requested by his son to visit John Horsfield, aged 62, residing at Whitefield, a few miles from Manchester, on the Bury road. I went almost immediately; but he had died about half-past three P. M., before my arrival.

I ascertained the following particulars:—viz., that, eight days before, on Sunday morning, the 26th of February, after a very straining, costive evacuation from the bowels, he was seized with pain in the lower part of the abdomen, sickness, and vomiting. These symptoms, with constipation of the bowels, continuing, a neighboring surgeon was called in, who used a variety of means without affording any decided relief. The tumor or chronic inguinal enlargement was examined, but no hernial descent could be detected; it was therefore supposed that no operation was indicated, and the case progressed to its fatal termination. On one occasion, about twelve months previously, I had an opportunity of examining the inguinal tumor, which was of a somewhat dusky color, projecting immediately under the integuments, and of about the size of a rather large pullet's egg. It was not attended with much pain or inconvenience. Permission being now granted, about two hours after his death, to examine the parts, I found the tumor composed of apparently degenerated glandular substance, most like friable decayed cheese, and of a brownish color, without any appearance of vascularity or organization. On examining behind this if there might be any hernial protrusion, I found outside the external ring a knuckle of small intestines, of a darkish purple color, the descent of which, doubtless, had occasioned the severe symptoms and fatal termination of the case.

Remarks.—The proper mode of combating with success cases like this must at once be apparent; as, although the hernial protrusion may be very difficult of detection, from the superincumbent tumor, yet, if there are unequivocal symptoms of intestinal obstruction, I think it will be conceded that we are justified in making an exploratory incision, by which, as occurred in Mr. Brown's interesting case, above referred to, we may sometimes succeed in rescuing a patient from much suffering, and, indeed, impending death.—*Association Journal.*

Extraction of Foreign Bodies from the Œsophagus.—M. Nelaton has collected with care the various modes of procedure for the extraction of foreign bodies arrested in the œsophagus, and he, in particular, examines the mode of extracting fish-hooks, the removal of which is a matter of great difficulty. In speaking of œsophagotomy, this skillful surgeon proposes a proceeding, which, according to him, is simpler than any other operation. Instead of making a lateral incision, M. Nelaton divides the integuments in the median line, as is done in tracheotomy, but making a more extended incision; he then separates, to the same extent, the sterno-hyoid muscles, so that they can be drawn apart by blunt hooks, or, if necessary, divided transversely, in order to give more space; that done, the isthmus of the thyroid body is laid bare; beneath it is passed a blunt needle, carrying a double thread, in order that two ligatures may be applied; between the two ligatures, the isthmus of the thyroid is divided. The trachea being thus laid bare, the left lobe of the thyroid is separated from it by a blunt instrument, keeping, at the same time, close to the trachea; at the bottom of this cleft, between the trachea and thyroid, the œsophagus is necessarily found, and is to be opened in the ordinary way. By acting thus, all risk of wounding the large vessels of the neck is avoided, and the operation may be performed without injuring the thyroid arteries.—*Elements de Pathologie Chirurgicale.*

Treatment of Strabismus from Paralysis of the third or sixth Nerve, by Cauterizing the Ocular Conjunctiva.—M. Deval, of Paris, has lately repeated this operation, which was first advised and performed by Dieffenbach. The cases in which it is called for are those of paralysis of the third or sixth nerve, without any actual cerebral lesion. The author operates as follows:—The parts should first be well brought into view by using a retractor to the upper lid, which latter should be drawn either to the inner or outer side of the eye, according as the internal or external rectus is affected. The operator himself presses down the lower lid, and, having well cleansed the spot to be cauterized, passes a pencil of nitrate of silver along the course of the muscle. A little brush, dipped in salt water, may then be used to carry off the superabundant particles of caustic. The muscle, thus stimulated, has been known to act pretty well again, as proved by cases quoted by M. Deval. It should be recollected that the internal rectus is inserted into the sclerotic about two lines from the margin of the cornea; the tendon of the external rectus is thinner, broader and more fibrous than that of the same muscle on the inner portion of the eye, and is fixed on the sclerotic at about three lines from the margin of the cornea. Cold applications will suffice for controlling the inflammation which may follow the operation.—*Lancet.*

THERAPEUTICS.

Sugar of Lead, in Diarrhœa, attended with Sickness of the Stomach.—℞. Morphiæ acetatis, gr. ss.; aceti-destillat., ʒij; plumbi acetatio, gr. xxiv.; aquæ destillat., ℥iiiss.; sacch. albi, ʒij; aquæ lauro cerasi, ʒij. lb. Tablespoonful every three or four hours.

Counter-irritant Plasters.—Dr. Hughes uses the following plaster in chronic chest affections:—℞. Emplast. picis comp., ʒiss.; antim, potassio tartratis, gr. x. Dissolve and make a plaster. The plaster is worn for a few days, and then cut away piecemeal, as the pustules show themselves. The cases in which it is employed have been those of chronic pneumonia—either idiopathic or complicated with phthisis, and severe, old-standing bronchitis.

Chloride of Ammonium in Chronic Bronchitis.—Dr. Delvaux has used this remedy in twenty cases with great success. He gives 15 to 40 grains in the twenty-four hours, preceding it always with a purgation, and prescribing a strict regimen for several days.

Treatment of Acne.—In the treatment of this disease, at the London Hospital, for skin diseases, the patient is directed never to wash the face with soap; to be particular to squeeze out any little black points which become visible, and to apply every night to the tubercles a small portion of an ointment, of which the chief active ingredient is the ammonio-chloride of mercury, in the proportions of ten grains to the ounce. The best constitutional treatment in acne simplex is the sulphate of iron, in combination with the sulphate of magnesia, and an access of acid is usually employed; but, in the acne indurata, the iodide of iron is preferred. In either case, the remedy must be continued several months, and the patient may be promised, as a reward, that the disease will be cured and the health improved.

Quinine in Neuralgia, following Herpes Zorta in old people.—Dr. Durrant has treated three such cases successfully which had resisted ordinary remedies, with quinine. It acted as promptly as a specific; on being omitted the pain returned, but was promptly relieved on resorting again to quinine.

Ethereal Solution of Nitrate of Silver.—The usual strength of this solution, as employed in the London Hospital, is eight grains of nitrate of silver to an ounce of the nitric ether; its strength may be modified according to necessity. It has this advantage over the aqueous ablution, that it dries sooner, and is more easily absorbed by the skin, the ether dissolving the fatty matter that exists.

A new form for administering Opium and Acetate of Lead in Cholera.—Mr. Donovan recommends the following:—℞. Acetate of lead, gr. ij; acetate of morphia, gr. $\frac{1}{12}$; acetate of codeine, gr. $\frac{1}{8}$; distilled vinegar, ʒss.; distilled water, ʒi; mix for a draught. Such draughts commence their action as soon as swallowed, and may be repeated as desired.

Common Oat as a Diuretic.—Take two handfuls of oats to a quart of water, and boil for a quarter of an hour; of the strained decoction a teacupful should be frequently given as an ordinary drink.

Ozæna treated by nasal irrigations.—MAISONNEUVE asserts that an injection, thrown *forcibly* into one nostril, will escape from the other without penetrating into the throat, and by this means a continuous current may be kept up through the nostrils. The operation is not painful, and may be practiced by the patient himself. Applying this experiment to the treatment of ozæna, the affected surfaces may readily and effectually be cleansed, with medicated injections, of all crusts and secretions which by their presence and irritation tend to keep up the diseased action.

MISCELLANEA.

Statistics of the Blind and Deaf in Great Britain.—Whole number 21,487, totally blind, of whom 11,273 are males, and 10,214 females. The number in England and Wales is 18,306, of both sexes, in Scotland, 3,010, and in the islands of the British Seas, 171. This gives a proportion of one blind to every 975 persons in Great Britain, one in 979 in England and Wales, one in 960 in Scotland, and one in 837 in the Channel Islands, one in 864 in Ireland.

Pay of British Army Medical Department.—Full pay, per diem, after actual service (in years)—Inspector-General, twenty-five years, £2; twenty years, £1 18*s.*; ten years, £1 16*s.*; Deputy-Inspector, according to the same gradations of service, £1 10*s.*; £1 8*s.*; £1 4*s.*; Staff-Surgeon, first class, ditto, £1 4*s.*; £1 2*s.*; 19*s.*; Regimental-Surgeon, and Staff-Surgeon, second class, ditto, £1 2*s.*; 19*s.*; 15*s.*; under ten years, 13*s.*; Assistant-surgeons, ditto, 10*s.* and 7*s.*

Medical Men for Emigrant Ships.—By the following Act of Parliament, called the Merchant Shipping Act (1854), which is to go into operation 1st of January, 1855, it is provided that the following ships shall carry on board, as part of their complement, some person duly authorized by law to practice as physician, surgeon, or apothecary:—
1. Every foreign-going ship, having 100 persons or upwards on board.
2. Every ship having 50 persons or upwards on board, which is bound on a voyage from the United Kingdom, to the eastward of the Cape of Good Hope, or to the westward of Cape Horn, or to any place on the West coast of Africa, or the East coast of Central or South America, or to the Falkland Islands. Penalty, £100.

Ignorance of Surgeons of the Art of Prescribing.—Mr. Solly, of St. Thomas' Hospital, London, stated in a recent introductory lecture, that the following rule in that hospital, adopted in 1689, was only abolished within his own time:—Ordered, that the ancient rule of this hospital, that no chirurgeon shall give any physic to any patient admitted into this house, but that the doctor alone be left to prescribe physic to all patients, be confirmed, and for the future strictly observed.

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On Muriated Tincture of Iron in Yellow Fever. By E. D. FENNER, M. D., of New Orleans.—I have prescribed it in about thirty cases at the Charity Hospital, and ten cases in private practice, and must say that I think it a valuable addition to our stock of remedies in this terrible disease. I have not ventured to rely upon it *exclusively*, but have given it cautiously, and called in the aid of other remedies, when they appeared to be demanded by the exigencies of the case, such as cupping, purgatives and diaphoretics. I have usually given to adults twenty drops of the tincture, in a little water, every two hours, commencing as soon after the attack as the bowels were well evacuated by castor oil or some other gentle cathartic. The remedy seems to be best adapted to the *early* stages of the fever. The *good* effects I have observed from it are the following: It appears to relieve the pains in the head and back, and induces sleep; it allays thirst, causes a copious secretion of urine, and most generally promotes perspiration; it appears to soften and reduce the frequency of the pulse; it generally sits well on the stomach until ten or twelve doses are taken, and causes an appetite for food, which is sometimes ravenous. On the other hand, I have observed the following *objectionable* effects from it: It sometimes causes vomiting, when continued too long; and is apt to produce constipation of the bowels, though not in all cases; if given late in the disease, it sometimes creates burning in the stomach, and makes the tongue dry. I have not *seen* any benefit from it in *black vomit*, nor much, indeed, after the second day of the fever. I lost two severe cases at the Charity Hospital which commenced taking the tincture on the *second day* of the fever, and four or five others that commenced later, some of them already in a hopeless state; but have had no death, either in the Hospital or private practice, when the remedy was commenced within twelve hours from the attack. I must repeat, however, that my treatment was not confined to this remedy alone. In several it was discontinued, *for cause*, and in others efficient adjuvants were resorted to. In some cases the remedy appeared to act like *a charm*, completely subduing the disease in twelve or twenty-four hours; in others it appeared to do no good. Slight hemorrhage from the nose, gums or uterus appeared in a few cases treated with this remedy, and this was always followed by good effects. It may be supposed by some persons that the cases which yielded so readily under the use of this remedy would have done equally well without any thing but a mild cathartic and warm teas. This is certainly *possible*, but I am not inclined to think it equally *probable.* I repeat, that so far as my experience as yet goes with the muriated tincture of iron in yellow fever, I am inclined to think it possesses considerable *virtues*, and that it well deserves the attention of the medical profession.—*New Orleans Med. News.*

New Indigenous Medical Plants of California. By G. L. Simmons.—Among the indigenous medical plants of California, there are two in common use which seem to possess virtues worthy of notice, the knowledge of which has been acquired by the Americans from the native Californians or hunters. One of them is the Spanish "*Amole*" or soap plant.

This plant was noticed by "Fremont" and other writers on California for its saponaceous properties, but it has only been since the occupancy of the State by the American people, consequent upon the gold excitement, that a knowledge of its medical properties has been known. Presuming it has been botanically described, (not having the authorities to certify the fact) I will merely give its chief characteristics only for the purpose of identification.

The "*Amole*" is a bulbous plant; leaves lanceolate, accuminate, radical, entire, glabrous from 8 to 12 inches in length; scape from 3 to 6 feet high; flowers white, in terminal racemes, panicles small; perianth tubular, 6 parted, 10 lines in length; ovary 3 celled; bulb perennial, 3 inches in diameter, 4½ inches long; scaly; external scales dark brown and fibrous, internal layers white and tender.

Habitat.—Neighborhood of lagoons, Sacramento Valley.

The bulb is the portion used for medical purposes. This, when broken apart and agitated with water, forms a soft and creamy mucilage, from which it has derived its name of "*Amole.*" The mucilage resembles the "*Mucilago acacia.*" Boiling thickens it, and a solution of the subacetate of lead affords no precipitation. It has a sweet taste, and leaves no unpleasant sensation in the mouth. Two drachms operate as a laxative in from four to six hours.

Its principal use in California is as an external emollient application. Many Americans while traveling through the States have been poisoned by the "*Rhus toxicodendron,*" which grows there in great abundance. The poison from this article in California is generally of the most violent type, and the usual course of treatment has often failed to afford relief. Some persons when suffering from the malady were advised by the *natives* to make an application of "Amole," and after doing so found themselves relieved; until now the remedy is well established, and in common use. Not only is it beneficial in subduing the inflammation consequent upon poisoning, but in all erysipelatous affections, and many cutaneous diseases, it has proved itself a safe and reliable remedy. It is prepared by taking off the coarse external scales of the bulb, and grating the remainder in a close vessel, a sufficient quantity of water is then added, and the whole triturated until a thick mucilage is formed; this is strained through coarse muslin, and it is applied to the affected part in a similar manner to a *cataplasm*, at the same time it is administered internally as often as may be necessary to keep the bowels open.

"*La Yerba Resinosa*" (so-called by the Californians,) is another plant worthy of notice. It grows from 1½ to 3 feet high. Leaves, alternate, sessile, oblong obtuse, serrulate, deciduous, 2 inches long; flowers, collected into a dense capitulum; scales, setose, monaceous; diameter, 1 inch; color, orange yellow. The leaves, head, and stem of this plant are covered with a transparent resinous substance, which has a strong aromatic odor, resembling somewhat that emanating from the balsam fir. This resin is most abundant when the plant is in full flower. At these times if the finger is applied to the under side of the capitulum, and allowed to remain there for a few seconds, upon withdrawal the resin will be found adhering in long transparent strings. It gathers in tears around the base of the scales, and is a source of inconvenience to the traveler, who is obliged to come in contact with it. The plant flowers from June until August, and its odoriferous properties are so strong and peculiar, that the scent which at first seems pleasant, finally becomes disagreeable, and even sickening. An alcoholic tincture of the leaves and flowers in the proportion of two ounces to one pint of sp. vin. rect., yields upon evaporation two drachms of the resinous substance. Obtained in this form, it presents a greenish black appearance, and retains the peculiar odor of the plant.

The medical properties of "La Yerba Resinosa" are those of a tonic *febrifuge.* The prevailing malady in California is intermittent fever. In some localities, at certain seasons of the year, no age or sex is exempt, and the discovery of an indigenous plant possessing the properties of the usual febrifuge remedies, cannot fail to prove a blessing, especially to those who reside at remote distances from cities and towns.

The usual manner of preparing this remedy is by decoction, although many make a tincture with some kind of alcoholic liquor. The last method would seem to be preferable, as the resinous property of the plant is soluble in water only to a limited extent.

Its effects upon the system seem to be somewhat similar to those produced by cinchona, yet they more closely resemble those produced by the action of the Eupatorium perfoliatum. Given warm, even when a chill or fever is present, it produces a profuse diaphoresis, and carried to any extent, catharsis, and sometimes emesis. It is used in dysenteries and diarrhœas, as well as fevers; and as these maladies in California are usually more or less complicated with intermittent symptoms, it is given with considerable benefit. From its abundance and apparently high medicinal virtues it is to be hoped that medical men generally will test its efficacy, and if it does possess the attributed properties, have it placed in a prominent position in our *Materia Medica.—American Jour. of Phar.*

Worms in the Urinary Bladder. By Bennet Dowler, M. D.—A case of this anomaly is reported by Dr. D. in the November number of the *New Orleans Medical and Surgical Journal.* The patient, a lad aged thirteen years, had been in bad health for a long time. The father of the boy, Mr. B., having assembled his neighbors for the purpose of "*a house raising*," at which whisky was drank as usual, some of the men succeeded in getting Mr. B.'s boy to drink until he became quite intoxicated. A painful and obstinate retention of urine followed, which lasted four days, and which did not give way until he discharged several living worms from the urethra, some of which were fifteen inches long. He has since discharged from the urethra a number of similar worms—in all about twenty; three of which were delivered to me by the parents, inclosed in a phial of whiskey. One of these exceeds ten inches in length, and is nearly one inch in circumference for the distance of three inches from the head backward. A longitudinal band, which is smooth, constitutes the belly. One-fifth of the body, next the head, has numerous well-defined semi-circular rings, which are obliterated on both sides as they approach the abdominal band. The middle third of the worm is nearly smooth; the tail becomes rough, wrinkled, and annulated like the undeveloped joints of the tapeworm. The anterior portion of the body is nearly uniform in size for more than one-third of its length; it then abruptly diminishes to less than two lines in diameter; two considerable enlargements occur in the posterior third, or caudal extremity, which latter has a thread-like termination. These enlargements divide the tail into three unequal parts.

The head consists of numerous well-defined rings, closely set, which compress the cephalic extremity more and more for a quarter of an inch—from the centre of which projects a proboscis, which at its emergence is more than a line in diameter, and about two in length, formed of rings, which become smaller until they terminate in the blunt proboscis which is studded with strong fangs or hooks. In the interior of the animal, adhering the back or dorsal aspect, two large parenchymatous columns, varying in size with the body, extends its whole length, being like lard in color, but a little firmer in consistence.

The other two worms appear to be of a different species, resembling tænia in structure, being flat and having numerous short annulated articulations with acute margins, like the joints of the tapeworm before development; one worm is five and a half inches in length—the other something less, both being almost uniform in size, scarcely averaging a line in width. All of these worms are white.

SURGERY.

Report on the Relative Value of Lithotrity and Lithotomy. By Prof. L. A. Dugas, M. D., of Ga.—The *Southern Medical and Surgical Journal*, for December, contains a report on this subject, made to the Medical Society of the State of Georgia. We have room only to extract the following:—

In treating the subject assigned us, the question of the relative fatality of the two operations presents itself as one of primary importance. By reference to the works of M. Civiale, and to the more recent treatise of Mr. Coulson, we find a very considerable collection of statistical information; a portion of which we will use without further reference. Mr. Coulson has collected well authenticated reports of no less than 6,369 operations of Lithotomy, "more than two-thirds of which have been performed since the commencement of the present century," in which "the number of deaths was 958, and the general mortality, therefore, 1 in 6.62 cases." From the tables published by M. Civiale, it appears that of 582 lateral operations performed in France, 101 resulted fatally, making the proportion of deaths 1 in 5.70, and of 2,278 cases of Lithotomy performed in various parts of Europe, 443 terminated fatally—or 1 in 5.14. From the tables of Mr. Coulson, the results in Great Britain were, in 1,744 operations, 251 deaths, or 1 in 6.93. According to Mr. Coulson's estimates the fatality of Lithotomy at different ages may be thus stated:—

Below 10	years	of age,	it is	1	in	13
From 10 to 20	"	"	"	1	"	9
" 20 to 30	"	"	"	1	"	6
" 30 to 40	"	"	"	1	"	5
" 40 to 50	"	"	"	1	"	4
" 50 to 60	"	"	"	1	"	3.65
" 60 to 70	"	"	"	1	"	3.23
" 70 to 80	"	"	"	1	"	2.71
	Aggregate proportion,			1	"	8.37

M. Civiale arrives at the following result:—

From 1 to 10	years	of age,	the deaths are	1	in	8.47
" 11 to 20	"	"	"	1	in	7.41
" 21 to 30	"	"	"	1	in	4.62
" 31 to 40	"	"	"	1	in	5.32
" 41 to 50	"	"	"	1	in	6
" 51 to 60	"	"	"	1	in	2
" 61 to 70	"	"	"	1	in	1.89
" 71 to 80	"	"	"	1	in	1.20
	Aggregate proportion,			1	in	5.94

The Records of Pennsylvania Hospital, according to Dr. Norris (Report in *Trans. Am. Med. Association*, vol. i.) show that from 1752 to 1848, there were 83 operations of Lithotomy, of which 72 were cured, 10 died and 1 was relieved. The private practice of surgeons, both in Europe and in this country, has in many instances presented a striking contrast with the statements derived from hospital records. It is unnecessary, however, to furnish further statistics upon this portion of our subject.

With regard to the fatality of Lithotrity, we find ourselves restricted to the writings of M. Civiale for any thing specific. The success of this distinguished surgeon in the treatment of calculous affections is without a parallel; and, although his statements were at one time (doubtless from a narrow spirit of envy) made the subject of serious imputations, they are now generally conceded to be fairly established, and are, we believe, so recognized by the French Academy. M. Civiale has published a complete account of each case, as well as tables of results. From 1824 to 1848, he had 848 cases of calculous disease —upon 591 he performed Lithotrity, of whom 14 died, or 1 in 42.21. The following will exhibit the number of cases, at different ages, so far as recorded:—

25	cases,	from	1 to 20	years	of age.
80	"	"	21 to 40	"	"
124	"	"	41 to 50	"	"
44	"	"	51 to 60	"	"
234	"	"	61 to 80	"	"
5	"	"	81 to 90	"	"

M. Leroy d'Etiolles reports 11 deaths in 116 operations. M. Heurteloup states that he has lost but 1 in 8.

The conclusions of M. Civiale (op. cit., p. 48) with regard to the relative value of Lithotrity and Lithotomy, are as follows:—1st. Lithotrity, when well performed in appropriate cases, will save from 96 to 98 patients in 100. 2d. The remaining fourth of calculous subjects unfit for Lithotrity may be subjected to Lithotomy. 3d. By Lithotomy, if exclusively practiced and without distinction of age, from 20 to 30 per cent. will be lost. 4th. If applied to children exclusively, Lithotomy will save nine-tenths. 5th. If applied to adults of all ages, Lithotomy saves from 50 to 75 per centum.

Case of Hypertrophy of the Male Mamma—Removal. By Prof. Paul F. Eve, M. D., of Nashville, Tenn.—This was a singular case, and came from Texas. The enlarged mamma has existed years, and having resisted various discutient applications to remove it or check its growth, it was thought best to resort to the knife. The patient is 23 years of age. The left mamma has the aspect of the breast of a girl at fifteen or sixteen; its nipple is quite sensitive to the touch, and has a large areola around it, and the body of the tumor feels fibrous through the skin. No pain has ever been experienced in it. On the same day of the two preceding operations, viz., Thursday the 5th, the enlarged mamma was removed by elliptical incisions including the nipple, while the patient was in a profoundly insensible condition produced by chloroform and ether, and the usual dressing then applied. Although there was apprehension that the circulation was at one time greatly embarrassed during the inhalation of the anæsthetic agents, he soon threw off their influence, and has had a speedy recovery.

The mass removed is flat, nearly the size of the palm of the hand, and is apparently a hypertrophied mamma, without any redundancy of adipose structure. It has not yet been subjected to the microscope.—*Nashville Jour. of Med. and Surg.*

Case of complete Extirpation of the Uterus for Inversion.—Recovery. By Prof. E. Geddings, M. D., of Charleston, S. C.—From the *Charleston Medical Journal*, we learn that Prof. Geddings has successfully removed the uterus for inversion. The patient was a negress; the accident of some eighteen years' standing. On examination, a large pyriform tumor, equal in magnitude to a fœtal head at the full term, was observed, proceeding from within the vagina, and hanging between the thighs of the patient. Its surface was covered with a rough, thickened mucous membrane, abraded and ulcerated on many points. The orifice of the urethra was but little removed from its normal position. The operation for its removal was performed by seizing the tumor high up and manipulating in such a manner as to exclude all the convolutions of the intestines, which could be readily felt, and then passing a strong ligature around the part. The neck of the tumor was then divided below the ligature by a single snip of a probe-pointed bistoury. The operation was easy and attended with no pain. On making a section of the tumor, it presented a solid homogeneous mass, of a grayish white texture and fibrous appearance. The whole cavity, formed by the inversion of the walls, had become obliterated by the adhesion of the opposing peritoneal surfaces. The after treatment of the case was simple, and the patient in the course of a few days speedily recovered.

Case of Rupture of the Uterus. Operation of Gastrotomy—Recovery. By John K. Mason, M. D., of Philadelphia.—We find in the *Quarterly Summary of the Transactions of the College of Physicians, of Philadelphia*, the report of a case of successful gastrotomy for rupture of the uterus. The patient was in labor with her sixth child. Rupture of the uterus occurred two hours and a half after her sickness commenced, and when in the act of defecating, immediately on the occurrence of which she complained of intense agonizing burning pain in the right side. The head of the child receded, and could be felt through the abdominal parietes. Twelve hours after the occurrence of the rupture, Dr. Neil performed gastrotomy under the influence of ether, by an incision through the linea alba, six inches in length. The child, which was hydrocephalic, was removed, together with the placenta and large quantities of coagula. The usual sutures and dressings were applied. Considerable constitutional disturbance occurred during the first ten days; but, on the twenty-first day, she was about house, and one month after she had entirely recovered. A like successful case of gastrotomy in rupture of the uterus is reported in the April (1854) number of the *American Journal of Medical Science*, by Dr. John T. Gilman, of Portland, Me. The operation was performed twenty-one hours after the occurrence of the accident.

Cæsarean Section twice successfully performed on the same Subject.—By W. H. Merinar, M. D., of Miss. In the *Medical Examiner*, Phil., we find the particulars of the following case:—A woman, aged 24 years, was taken in labor on the 14th of July, 1852; for three days she was attended by a midwife; the labor had been active, and the waters had escaped on the second day. On the arrival of Dr. M., he found great deformity of the pelvis—its antero-posterior diameter not exceeding two inches. On the morning of the 18th, uterine contractions ceased, the patient lay exhausted and stupid, skin hot and dry, great tenderness over the abdomen, much thirst, and pulse 124. After consultation, Cæsarean section was decided upon. An incision, five and a half inches in length, was made. The uterus was then laid open and a dead male child extracted. The placenta and membranes were then removed; the usual dressings were applied. In the course of recovery no very severe symptoms manifested themselves, and on the 20th of September she had entirely recovered. On the 22d of May, 1854, she was again taken in labor; the pains were violent, and, at midnight of the same day, were so severe, notwithstanding the free use of opiates, as to threaten danger. Cæsarean section was again decided upon. An incision was made parallel with the first. The womb was laid open and a living male child removed. Following the delivery of the placenta and membranes, there was but little hæmorrhage. The usual dressings were then applied. On the fourth day after the operation, somewhat severe symptoms set in, which, however, were controlled by energetic treatment; after this her recovery was gradual. On the 28th of August, both mother and child were enjoying good health.

Surgery in California.—We find, in the *Marysville Daily Herald*, an account of the operation of wiring together the united fragments of the thigh-bone of an Italian, which had been fractured eight months previously. The operator was Dr. McLean, of the French Hospital of that city, and the operation seems to have been performed dexterously, and gives promise of success.

MISCELLANEA.

*Positive Medical Agents.**—We have received a volume prepared by B. Keith & Co., of this city, bearing the foregoing title. The work contains a description of the various substances prepared by the Institute, their physical properties; mode of administration; medicinal properties; formulæs for their combination with each other, for the cure of diseases for which they are applicable, etc. In regard to the mode of preparation of the remedies described, we have searched throughout the volume for some satisfactory information, but have failed in obtaining it. Of the value of the agents described, our own experience is too limited to pronounce correctly upon this point. We should be glad to hear from any of our readers who may have used or shall hereafter use them.

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* *Positive Medical Agents: Being a Treatise on the New Alkaloid Resinoid, and concentrated Preparations of indigenous and foreign Medical Plants.* By authority of the American Chemical Institute. New York: C. B. Norton, 1854, 8vo. pp. 304.

*Biographical Sketches.**—A kind friend has sent us a copy of this interesting pamphlet. We know of no subject so pleasing to, and at the same time so well adapted for, the intellectual repast of the younger members of our profession, on the occasion of their Annual Meeting, as the reminiscences of the past—the incidents of the early struggles of the pioneer physicians of our State. We have been ofttimes surprised that the themes for our annual address were not more frequently chosen from this field of historical research. We commend this little brochure to the careful perusal of our readers.

New Editions of Medical Books.—The well-known publishers of this city, Messrs. S. S. and W. WOOD, have recently issued new editions of the following works :—QUAIN'S *Anatomical Plates*, 4to., with 200 plates; GODDARD *on the Teeth*, 4to., with 30 plates; HARRISON'S *Text Book of Anatomy ; Dublin Dissector ;* BECK'S *Infant Therapeutics.* They announce also for publications JOHNSON *on Diseases of the Kidney.*

Viviparous Fish.—DR. BENNET DOWLER has recently published an account of a small osseous fish, found in the neighborhood of New Orleans, which proved to be viviparous, having at the time of the examination twenty-two well formed young in its body. The same species of fish had previously been discovered by Dr. Gibbons, in California.

OBITUARY.

DEATH OF JOHN P. HIESTER, M. D.—Dr. Hiester died in Reading, Pa., on the 15th of September last, aged 51 years. He was born in Berks county, Pa., in 1803. In 1827 he graduated at the University of Pennsylvania, having presented a thesis "*On Indigestion.*" He was a distinguished practitioner, a great lover of botany and chemistry. He was enthusiastically devoted to the great interests of the profession, and was lately President of the Pennsylvania State Medical Society.

DEATH OF DR. T. MATHER.—Died in Binghamton, N. Y., on the 8th of October last, Dr. Thaddeus Mather, in the 76th year of his age. He was born in Windsor, Conn., in March, 1778. For thirty years he practiced medicine in Delaware county, N. Y. He is said to have been a skillful and distinguished physician, pursuing its arduous duties with untiring industry, and abundant success.

DEATH OF GEORGE F. TURNER, M. D.—Died of yellow fever, at Corpus Christi, on the 17th of October, Dr. G. F. Turner, Surgeon of U. S. Army, aged 40 years. The deceased was a distinguished member of the Medical Corps of the U. S. Army. His contributions to medical literature were not numerous. In the first volume (*New Series*) of this Journal, may be found an exceedingly interesting article from his pen, on *Epidemic Miliary Fever*, as observed at Fort Snelling, Upper Mississippi, in the winter of 1847–48.

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* *Biographical Sketch of the Medical Profession of Broome County, N. Y.* Read before the Broome County Medical Society at its Annual Meeting, October 7th, 1851. By S. H. FRENCH, M. D., President of the Society. Binghamton, 1854, 8vo. pp. 63.

DEATH OF DR. WILLIAM TURK, U. S. N.—Died in Newark, N. J., on the 20th of November, Dr. Turk, aged 77 years. He was born in the City of New York, and graduated in Columbia College, in the Class of 1796. In 1800 he entered the U. S. Navy as surgeon's mate, and in 1813 was appointed surgeon, and was engaged in active service during the war. He was the oldest surgeon, but two, on the Navy List, and was much beloved and respected by a large circle of friends.

DEATH OF DR. ROBERT SEMPLE.—Dr. Semple died at his residence, fourteen miles south of Colusa, California, on the 25th of October last, from injuries received by a fall from his horse. He was well known to many of the earlier residents of California, having emigrated from Kentucky, across the plains, in 1845. After having taken a prominent part in the Bear Flag revolution in that year, he located at Benecia. He was a delegate to the convention for the formation of a State Constitution, in August, 1849, and was unanimously chosen President of that body. He, in company with Walter Colton, established the first newspaper in California, at Monterey, in 1846.

DEATH OF SAMUEL PARKMAN, M. D.—Died in Boston, on the 15th of December, Dr. Samuel Parkman. He was a graduate of the Medical Department of Harvard University, in 1838, and for a number of years he was Demonstrator of Anatomy in that Institution. He was also, for some time, one of the surgeons of the Massachusetts General Hospital.

DEATH OF DR. GOLDING BIRD.—Died at Tunbridge Wells, on the 27th of October last, Golding Bird, M. D., F. R. S., aged thirty-eight years. For some months previous to his decease, his failing health had obliged him to relinquish all his professional duties. He had long suffered from an affection of the heart, but the immediate cause of his death arose from kidney disease. He has thus fallen a victim to a malady, the elucidation of which has rendered his name distinguished among the promoters of strict science in Medicine. We need hardly add, he was the well-known writer on *Urinary Deposits, etc.*

DEATH OF DR. G. L. ROUPELL.—Died of Cholera, in London, on the 29th of September last, George Leith Roupell, M. D. He was Senior Physician to St. Bartholomew's Hospital, and one of the most eminent, accomplished, and high-minded practitioners of the English Metropolis.

DEATH OF PROF. LALLEMAND.—Died recently, at Marseilles, M. Lallemand. He was formerly Professor of Clinical Surgery at the University of Montpellier, but was particularly distinguished by his admirable writings on the *Diseases of the Encephalon, on Spermatorrhœa*, and last, though not least, his *Clinique Medico-Chirurgicale.*

TO READERS AND CORRESPONDENTS.

☞ The author of each original communication published in this Journal, if desired, will receive twenty copies in sheets, provided a request to that effect be made, upon either manuscript or proof, when handed in. All arrangements for extra copies, in pamphlet form, must be made directly with the printers, Messrs. Holman & Gray.

☞ Owing to the unexpected length of the leading article in the present number, several original communications have been laid over, and an analytical review of the last volume (XXXVII.) of the Medico-Chirurgical Transactions.

The following works have been received:—

Lectures on Histology, delivered at the Royal College of Surgeons of England, in the Session 1851–52. By John Quekett, Resident Conservator of the Museum of the Royal College of Surgeons of England, and Professor of Histology. Vol. II. *Structure of the Skeleton of Plants and Invertebrate Animals.* Illustrated by two hundred and sixty-four wood-cuts. London: Hippolyte Baillière, 219 Regent street, and 290 Broadway, New York. 8vo., pp. 413. (From the Publishers.)

Illustrated Manual of Operative Surgery and Surgical Anatomy. By MM. Ch. Bernard, D. M. P., and Ch. Huette, edited with notes and additions, and adapted to the use of the American medical student, by W. H. Van Buren, M. D., Prof. of Anatomy, University Medical College, and Surgeon to the New York Hospital; and C. E. Isaacs, M. D., Demonstrator of Anatomy, University Medical College, and Consulting Surgeon to the Penitentiary Hospital, Blackwell's Island. Illustrated with steel engravings, from drawings after nature, by M. J. Leveille. Designed to serve as a companion to the ordinary text-books of Surgery. New York: H. Baillière, 290 Broadway, and 219 Regent street, London. Paris: J. B. Baillière, Rue Hautefeuille, 1855. 8vo., pp. 513. (From the Publishers.)

A Manual of Pathological Anatomy. By C. Hanfield Jones, M. B., F. R. S., Fellow of the Royal College of Physicians, London, etc., and Edward H. Sieveking, M. D., Fellow of the Royal College of Physicians, London, etc. First American edition, revised, with three hundred and ninety-seven illustrations. Philadelphia: Blanchard and Lea, 1854. 8vo., pp. 733. (From the Publishers.)

An Inquiry into the Pathological Importance of Ulceration of the Os Uteri, being the Croonian Lectures for the year 1854. By Charles West, M. D., Fellow of the Royal College of Physicians, Physician-Accoucheur to St. Bartholomew's Hospital, London, etc., etc. Philadelphia: Blanchard and Lea, 1854. pp. 88. (From the Publishers.)

☞ *For a review of this work see Sept.* (1854) *number of this Journal.*

Report of a Trial for alleged Mal-practice against Dixi Crosby, M. D., Prof. of Surgery, etc., in the Dartmouth Medical College; in the Windsor County Court at Woodstock, May term, 1854. Verdict for defendant. Woodstock, 1854. (From Prof. Dixi Crosby.)

Report of the Sanitary Commission of New Orleans, on the epidemic Yellow Fever of 1853. Published by Authority of the City Council of New Orleans. New Orleans, 1854. 8vo. pp. 542. (From Dr. Barton.)

Autobiography of CHARLES CALDWELL, M. D., *with a Preface, Notes, and Appendix.* By HARRIOT W. WARNER. Philadelphia: Lippincott, Grambo, & Co., 1855. 8vo. pp. 454. (From the Publishers.)

Puerperal Fever as a Private Pestilence. By OLIVER WENDELL HOLMES, M. D., Parkman Professor of Anatomy and Physiology, in Harvard University. Boston: Ticknor & Fields, 1855. 8vo. pp. 60. (From the Author.)

What to Observe at the Bed-side and after Death in Medical Cases. Published under the Authority of the London Medical Society of Observation. Second American from the second and enlarged London edition. Philadelphia: Blanchard & Lea, 1855. 12mo. pp. 228. (From the Publishers.)

Annual Reports of the Commissioners and Superintendent of the Indiana Hospital for Insane, to the General Assembly, November, 1854. Indianapolis, 1854. 8vo. pp. 74. (From Dr. Athon.)

Twelfth Annual Report of the Managers of the State Lunatic Asylum. Transmitted to the Legislature January 17th, 1855. Albany, 1855. 8vo. pp. 48. (From Dr. Gray.)

Reports of the Trustees and Superintendent of the Butler Hospital for the Insane. Presented to the Corporation at their Annual Meeting, January 24th, 1855. Providence, 1855. 8vo. pp. 31. (From Dr. Ray.)

Medical Science, or Disease a Unit. By H. BACKUS, M. D., of Selma, Ala. Selma, 1855. 8vo. pp. 45. (From the Author.)

Report of the Board of Health of the City of Brooklyn, December, 1854. Brooklyn, 1854. 8vo. pp. 17. (From Dr. Hutchison.)

Annual Report of the Superintendents of the Poor of the County of Kings, for the year ending July 31*st,* 1854. With accompanying Documents. Williamsburgh, 1854. 8vo. pp. 47. (From Dr. Tucker.)

The Transactions of the New York Academy of Medicine. Vol. I., Part 3, containing a Report on Solidified Milk, by the Standing Committee on Public Health and Legal Medicine. New York, 1855. 8vo. pp. 11. (From the Academy.)

Anniversary Discourse before the New York Academy of Medicine, delivered in Clinton Hall, November 22*d,* 1854. By JOHN H. GRISCOM, M. D. Published by order of the Academy. New York, 1855. 8vo. pp. 58. (From the Academy.)

The Transactions of the New Hampshire Medical Society. (Sixty-fourth Anniversary.) Held at Concord, June 6th and 7th, 1854. Concord, 1854. 8vo. pp. 56. (From Dr. Hubbard.)

☞ We are in receipt of our usual exchange Journals.

☞ Communications intended for publication, and Books for Review, should be sent, *free of expense,* directed to Drs. Purple and Smith, Editors of the New York Journal of Medicine, 183 Hudson-street, *New-York.* Persons at a distance may direct parcels, or exchanges, *paid* as above, under cover, to M. J. B. Baillière, Rue Hautefeuille, *Paris;* or H. Baillière, 219 Regent-street, *London;* or Lindsay & Blakiston, *Philadelphia;* or Ticknor & Co., *Boston.* The attention of Correspondents is respectfully requested to the above, as the Publishers are frequently subjected to unnecessary expense for postage and carriage.

All remittances of money and letters on the *business* of the Journal, should be directed to the Proprietors.

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THE NEW-YORK

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◆

PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*On the Climate, Diseases and Materia Medica of the Sandwich (Hawaiian) Islands.* By LUTHER H. GULICK, M. D., of Ascension Island.

THIS first attempt to collect and arrange systematically all the facts of medical interest connected with the Hawaiian or Sandwich Islands, is necessarily imperfect, but will, it is hoped, be not an unworthy contribution to the department of Medical Topography.

We will first notice the important elements of that which, Dr. T. C. B. Rooke remarks, "yet remains a parodox," viz.:

THE CLIMATE OF THE HAWAIIAN ISLANDS.

Before studying diseases themselves, we investigate their causes, and it is self-evident that a thorough apprehension of the producing and modifying agents of disease in any locality cannot be fully attained prior to a familiar acquaintance with the climate, for under this term are included several most potent predisposing and exciting causes.

The *Locality* of the Hawaiian Islands, geographically expressed, is from 18° 50′ to 22° 20′ north latitude, and from

154° 53′ to 160° 15′ west longitude. Situated so far both from the eastern and western continents, the group is most effectually removed from their immediate controlling influences so far as climate is concerned. The group lays on the northern boundary of the torrid zone—once each year the sun arrives at the zenith of its meridian. Its climate, so far as affected by relative position, ought, therefore, to be mild, equable, and salubrious—and such it may unhesitatingly be pronounced.

The *Geological character* of the Hawaiian Islands is strictly volcanic, the coraline element being very insignificant. Each island is emphatically rugged and mountainous. On Kauai, Maui, Oahu, and Hawaii, many of the elevations are of considerable altitude. On Maui, Mauna Haleakela is over 10,000 feet high, and on Hawaii, Mauna Loa is 13,760 feet, and Mauna Kea 13,950 feet in height. The arable and habitable parts of the land are in detached portions, thrown in among the hills or on their seaward slopes. The great body of the population occupy positions near the sea, which have an elevation above its level varying from ten to perhaps an hundred feet. In the central portions of East Maui and of Hawaii much higher localities are inhabited. Waimea on Hawaii, the highest village of the group, is about 4,000 feet above the ocean's level. The southern slopes of the islands are exposed to solar influences under much more favorable conditions for warmth than the northern, the rays of light and heat during most of the year striking them in lines nearer vertical, and therefore more favorable for absorption, which, combined with the fact that the most important winds are from the northeast, from which the southern aspects are sheltered by the central mountain heights, conspires to render the southern or leeward aspects of islands generally the warmer and dryer, and the northern aspects the cooler and more humid.

The *Soil* is peculiarly volcanic, consisting of the débris of the primitive rock, light and porous, hence readily parched and apt to take on the form of dust, yet incapable of long retaining acquired heat. The climate is therefore readily affected, so far as it is influenced by the calorific capacities of the soil.

The *Streams* and so-called rivers, though redolent of poetry, are such insignificant bodies of water as to here deserve scarce a passing notice—from the necessities of the case, they are short and small. From what has been said, lakes would not be expected.

The *Winds* of the islands are important in their relations to the climate, and may, perhaps, be referred to four classes: 1. The Trade Winds. 2. The Land and Sea Breezes. 3. The Southwest Winds or Gales. 4. The Variable Winds.

The *Trade Winds* are most efficient agents for good in the climate of these islands. Situated as the group is, near the northern limits of the trade wind zone, when the trades, with the sun, have made their farthest advances northward, it is brought under their full action; but when the sun is in southern declension, and when the trades, following it, have made their farthest oscillation southward, the group is beyond their limits and under the action of that cloud-zone, under which there is a constant precipitation of moisture, and which ever hangs over that oscillating line just north of the trade wind zone, where, as by Lieut. Maury, we are taught that the northeast and southwest currents of the upper air meet. The trade winds blow steadily from the northeast about six months. They give way during the months of November, December, and January. October, February, and March, are debated months, during which, however, the trades generally predominate. Having fairly secured their ascendancy in the spring, they blow with remarkable uniformity, and often with "considerable violence, almost amounting to a gale." These breezes, pure and cool, arrive from their ocean voyage with much of humidity adhering to their unseen wings, from whence it is precipitated in frequent showers that fertilize the whole windward coast. They are the equalizers of torrid heat, and the correctives of all miasmatic exhalations. Their influence is felt on all parts; but from what has been remarked of the high midland elevations, it will be readily seen that the southern and southwestern aspects are, in greater or less degree, protected from their direct effects. We therefore find two varieties of climate during the season of their prevalence. The one, on the northern and northeastern shores, cooler and more humid, for here the trades first kiss the green-clad isle, and drop their dewy tears of joy; the other, on the southern and southwestern coasts, dryer and hotter. The whole is expressed by the terms "windward" and "leeward."

These notices of the trade winds must be somewhat modified in reference to Hawaii, the largest and most southern of the group, which is so large (being 88 miles long and 68 wide, having an area of about 4,000 square miles) that it interferes with the force of the trades, and with their regularity, and allows the *Land and Sea Breezes*, in obedience to their own laws, on all its leeward border, and "in some degree even on its northeast coast, where the trades are usually freshest." The trades, in their passages over the comparatively small areas of the northern individuals of the group, are perfectly competent to effecting an equilibrium between it and the surrounding seas, and so, in the main, prevent the series of actions and reactions productive of the diurnal currents. But on Hawaii, the area being much greater, an equilibrium of temperature is not effected by the trades, especially on the southern coast, and immediately the land and sea breezes arise.

Of the *Southwest Winds*, which are the rainy winds, and which, being coincident in time with the superposition of the cloud-zone, produce the rainy season, it must be remarked that they are intermittent, blowing continuously for several days and weeks, and then giving place to the finest of inter-tropic weather, again to return. I quote from Mr. Jarvis' *History of the Sandwich Islands*:—"The southwest wind brings heavy rain, and is usually loaded with a briny vapor, which is deposited upon vegetation and causes it to wither as if touched with frost. Its effects are equally disagreeable to the human system. Headaches, catarrhs, rheumatisms, and kindred diseases prevail during their continuance. Upon foreigners its influence is very obvious, causing a compression about the head, and an enervation which greatly incapacitates the body for all active business; the atmosphere is thick, raw, and at times feels like the heated air of a furnace. The miasms, arising from the lagoons, which exist to some extent near Honolulu on the sea side, are blown back upon the land. By the natives it is known as 'the sick wind,' and with great propriety."

The *Variable Winds* occur during the same part of the year with the southwestern, viz.: during the winter. The following table exhibits the number of days of the prevalence of each wind.

	Trade Winds.	Southerly Winds.	Variable Winds.
At Honolulu....................1837	295	44	26
" " 1838	258	71	36
At Waioli....................1845-6	220	146	

Hurricanes and tornadoes, by virtue, perhaps, of the group's remote position from neighboring lands, are unknown, and thunder-storms are rare and mild, which indicates that the electric conditions are subject to no great or sudden alternations—a circumstance favorable to health.

Such *Udometric*, *Barometric*, and *Thermometric* facts as I have been able to collect, shall be presented, together with a few additional details regarding the winds. I very much regret my inability to secure all such tables which I know to be published.

Com. Wilkes, in speaking of the same place, remarks:—"It rains nearly nine months in the year, and, from the rainbows formed by these passing showers, it has obtained its name, which signifies the land or place of rainbows—'Halelea.' A few days of dry weather are quite unusual. During three months, included in the above nine, rain fell on fifty-two days; fourteen were cloudy. During the remaining twenty-four the weather was clear, but it rained occasionally at night."

Rev. Mr. Johnson's Meteorological Table for 1845–6, at Waioli, on Kauai, is interesting, as being the only one I have of a locality on the windward side of any of the islands. This table was first publised in *The American Journal of Sciences and Arts.* I copy it from Mr. Bingham's "*Sandwich Islands.*"

Month and date.		Fah. Thermometer.						Winds.				Weather.									
		Average at 6½ a.m.	Average at 1 p.m.	Average at 6½ p.m.	Maximum.	Minimum.	Mean.	N.E. Trades a.m.	N.E. Trades p.m.	Var. a.m.	Var. p.m.	Rain in inches.	Fair a.m.	Fair p.m.	Cloudy a.m.	Cloudy p.m.	Show. a.m.	Show. p.m.	Rain a.m.	Rain p.m.	R'n at night.
April,	1845.	66·6	75·0	70·0	82·0	62·0	70·2	21	20	10	11	14·0	9	4	4	11	10	9	7	6	17
May,	"	69·6	80·3	74·0	85·0	66·0	74·6	27	27	4	4	6·0	11	10	5	4	14	15	1	2	10
June,	"	71·6	82·6	75·0	90·0	66·0	76·4	25	27	5	5	4·0	16	17	2	1	10	10	3	3	12
July,	"	72·0	82·0	75·8	86·0	69·0	76·3	30	30	1	1	8·0	9	7	7	6	9	16	6	2	21
August,	"	71·6	85·2	76·9	89·0	67·0	77·2	29	29	2	2	5·5	9	15	2	5	7	8	5	3	12
Sept.,	"	71·4	82·6	76·6	87·0	68·0	76·8	28	27	2	3	5·4	16	12	3	4	11	13	0	1	14
October,	"	69·6	78·5	73·8	84·0	64·0	74·0	18	16	13	15	18·4	11	10	5	3	9	10	6	8	22
Nov.,	"	66·7	78·5	72·0	82·0	57·0	72·3	4	4	26	26	5·2	22	19	2	4	4	4	2	3	10
Dec.,	"	65·2	75·0	69·0	82·0	57·0	69·7	7	7	24	24	5·0	18	10	6	5	6	6	1	1	11
January,	1846.	62·0	71·8	67·9	79·0	54·0	67·2	3	3	28	28	4·6	18	7	8	8	1	4	4	3	10
Feb.,	"	63·3	73·5	68·4	78·0	57·0	68·4	10	10	18	18	3·6	16	14	10	10	0	1	2	3	10
March,	"	63·4	75·8	69·5	80·0	56·0	69·5	18	18	13	13	6·6	15	14	16	8	4	4	6	5	16

"At *Koloa*, on Kauai, the thermometer varies from 50° to 90°." (Jarvis' *History of Sandwich Islands.*)

The following most valuable and complete "General Table of Meteorological Observations at *Honolulu*, from January 1st, 1837, to January 1st, 1839," was prepared for the *Hawaiian Spectator* by T. Chas. Byde Rooke, F. R. C. S. Honolulu is on the south side of Oahu, and is by far the most important town of the Islands.

1837.	Barometer.			Fah. Therm.			Winds.			Weather.			Rain during the month in inches.
	Aver. height at 7 a.m.	Aver. height at 2 p.m.	Aver. height at 10 p.m.	Average at 7 a.m.	Average at 2 p.m.	Average at 10 p.m.	Trades days.	Southerly days.	Variable days.	Fine days.	Rainy days.	Var. days.	
January	29·970	30·006	30·043	67·9	76·6	71·3	10	14	7	24	3	4	2·0
February ...	30·076	30·030	30·060	71·1	71·7	72·7	22	4	2	19	3	6	1·7
March......	30·098	30·057	30·087	69·6	76·6	72·4	19	6	6	22	2	7	2·5
April.......	30·128	30·092	30·117	72·1	78·4	73·7	30	0	0	25	4	1	1·2
May........	30·109	30·085	30·097	73·4	80·2	75·0	30	1	0	29	1	1	0·9
June	30·093	30·061	30·085	76·1	81·9	77·5	29	0	1	21	3	6	1·4
July	30·115	30·095	30·107	76·4	81·5	77·3	28	1	2	21	7	3	2·8
August.....	30·077	30·066	30·087	76·9	82·8	78·1	30	0	1	22	3	6	2·0
September..	30·095	30·060	30·097	76·5	83·0	77·0	29	1	0	29	1	0	0·7
October	30·116	30·076	30·120	74·8	80·6	76·0	26	4	1	28	1	2	0·4
November ..	30·070	30·029	30·071	72·7	77·9	73·8	19	7	4	18	8	4	4·5
December ..	30·124	30·072	30·115	69·9	76·5	71·1	23	6	2	27	1	3	1·0
Average..	30·128	30·060	30·090	73·1	79·5	74·8	295	44	26	285	37	43	21·1

1838.	Barometer.			Fah. Therm.			Winds.			Weather.			Rain during the month in inches.
	Aver. height at 7 a. m.	Aver. height at 2 p. m.	Aver. height at 10 p. m.	Aver. at 7 a. m.	Aver. at 2 p. m.	Aver. at 10 p. m.	Trades days.	South. days.	Var'ble days	Fine days.	Rainy days.	Var'ble days	
January....	30·060	30·028	30·054	69·3	75·6	71·5	21	5	5	25	3	3	0·8
February...	30·016	29·970	30·005	71·2	75·3	72·1	20	3	5	18	6	4	8·5
March......	30·105	30·064	30·095	72·0	75·1	72·5	22	3	6	21	4	6	2·1
April.......	30·127	30·095	30·140	71·5	76·7	72·8	29	1	0	27	1	2	1·0
May........	30·149	30·139	30·162	73·2	80·3	75·5	25	5	1	28	1	2	0·5
June.......	30·085	30·040	30·090	75·5	81·7	77·1	20	7	3	17	3	10	2·5
July........	30·091	30·068	30·092	76·4	82·5	77·0	26	3	2	24	3	4	1·5
August.....	30·078	30·052	30·078	77·2	83·2	78·4	30	1	0	28	1	2	1·2
September.	30·073	30·035	30·068	76·7	82·6	78·4	27	2	1	25	3	2	2·5
October....	30·040	30·021	30·042	75·0	80·1	76·9	16	7	8	20	5	6	12·0
November..	30·041	30·008	30·044	72·3	76·6	73·7	18	9	3	19	5	6	6.7
December..	29·973	29·876	29·993	71·5	76·3	73·3	4	25	2	23	6	2	7.5
Aver. of year	30·087	30·033	30·072	73·5	78·8	75·1	258	71	36	275	41	49	46·8

Of *Waialua*, on the western side of Oahu, Com. Wilkes affirms, on the authority of residents:—"The thermometer ranges from 75° to 80°, and has not fallen below 55° for several years, and rarely below 60°."

The temperature of *Lahaina*, on the south of Maui, as given by Dr. Chapin (*Amer. Jour. of Sci. and Arts*), corresponds with that of the above-mentioned places. He was guided by Rev. Mr. Richards' tables, kept for ten years, which exhibit "the highest thermometric elevation at 86°, the lowest at 54°, the extreme difference 32°, and no day during the whole period exhibits a difference of more than 19°. June has the highest range, January the lowest." "Lahaina is one of the most arid districts of the group, and has seldom rain sufficient to moisten the soil through its whole depth, except in the winter or rainy season. For months in succession the sun is scarcely obscured by clouds, and its exemption from the direct influence of the trades might lead us to expect several degrees of the thermometer above the more wet and windy portions; but so far as my observation has extended, and I have visited every portion of the island, it is not the case."

Of *Kailua*, on the west or lee side of Hawaii, Capt. Wilkes states:—"During the winter the thermometer ranges, at sunrise, from 64° to 78°; at mid-day, from 76° to 85°; at sunset, 70° to 80°. In summer the range is 68° to 80° at sunrise; at mid-day, 78° to 86°; and at sunset, 72° to 81°."

Of *Kaawaloa*, on the lee coast of Hawaii, Capt. Wilkes states:—"The thermometer ranges between 62° and 76° in the winter, and from 70° to 86° in the summer, and seldom above 86° or below 62°."

"The average temperature of *Waimea*, Hawaii, situated in the interior at an elevation of about 4,000 feet, is nearly 64° Fahrenheit, 48° being the lowest extreme." (Jarvis' *History of the Sandwich Islands*.)

It is to be regretted we have no greater number of statistics regarding the falls of *Rain*, but we shall probably state the truth with sufficient accuracy, if we allow the average annual amount on the windward shores to be seventy-five inches, and on the leeward, twenty-five.

The climate of the Hawaiian Islands is one of the most equable possible. A few comparative statements, principally deduced from the preceding tables and statements, will be of interest.

The *daily range* of thermometer is:—at Penzance, 6½°; at Nice, 8½°; at Rome, 11°; and at Honolulu, 12°.

The *mean difference of successive months* is:—at St. Augustine (Florida), 3° 68′; at Penzance, 3° 05′; at Key West, 2° 44′; at Madeira, 2° 41′; and at Honolulu, in 1837, 1.59°, in 1838, 1.77°; and at Waioli in 1845–6, 1.77°.

The *mean annual range* (I quote from Dr. Lee, in Dr. Copland's *Dictionary of Prac. Med.*) is:—at St. Augustine, 53°; at Penzance, 49°; at Key West, 37°; and at Madeira, 23°. At Honolulu, the extremes, during twelve years, were 90° and 53°, the range being 37°; during 1837 the maximum was 85°, the minimum was 61°, the range 24°; and during 1839 the maximum was 86°, the minimum 62°, the range 24°. At Lahaina, during a period of ten successive years, the extreme points of thermometric elevation and depression were 86° and 54°, making a range of only 32°. At Waioli, in 1845–6, the maximum was 90°, the minimum 54°, the range 36°. It is palpable that these statements regarding Lahaina, Honolulu, and Waioli, are by no means as comparatively favorable as they might be, for they either refer to individual years, or embrace periods of ten and twelve years, and give the absolute extremes, rather than the mean annual ranges, as given for St. Augustine, Penzance, Key West, and Madeira. It is my impression that the mean annual range of many Sandwich Islands localities will yet be proved less than even that of Madeira.

The *mean annual temperature* of the West Indies is 79° to 81°, on the leeward side of the Hawaiian Islands about 75°, and on the windward about 72°.

On our present subject Dr. Chapin remarks:—"The climate will be found extremely pleasant and equable, and not surpassed in salubrity by any in the world. Indeed, what place can be found more uniform—the thermometer, during a space of ten years, not having varied more than thirty-two degrees; and where no day during the same period had a variation of more than nineteen degrees; where the same clothing is found comfortable the whole year, and where no other regulator of the temperature is needed than simply to open or close a window."

Dr. Judd, in noticing the amusing observations on the weather one will hear in the course of a half-hour's walk, says:—"One will tell you the weather is very pleasant; another, who, perhaps, has taken a little more exercise than usual, will say it is hot; another, at ease in the shade, will remark it is cool; while another will ascribe to the weather any other quality which his own dullness or buoyancy of spirits may suggest. The fact, most probably, will be, that there is nothing unusual or noticeable in the weather, and it would not be a subject of remark, but for our early habits in a land of sudden and severe changes. The natives seldom speak of the weather; indeed, there is no word in their language to express that general idea, and it is only the occurrence of a storm or something unusual, that attracts sufficient attention to make it a subject of remark."

The Hawaiian Islands have been spoken of as well suited to persons of phthisical tendencies; and, in many respects, they are admirably adapted. Such uniformity of mild temperature is only equaled by few far-famed localities. The period will, probably, soon arrive when consumptives will resort there for health, as they now visit the West Indies or the Canaries. Not every season is equally favorable, however. The dry or trade wind season, from April to September inclusive, will, probably, be found the best, as may be inferred from the following table deduced from those already given:—

	April to September.				October to March.			
	Max. Therm.	Min. Therm.	Range Therm.	Inches Rain.	Max. Therm.	Min. Therm.	Range Therm.	Inches Rain.
Honolulu........1837	85°	71°	14°	12·6	83°	61°	22°	9 5
" 1838	86°	68°	18°	11·3	82°	62°	20°	35·5
Waioli.........1845–6	90°	62°	28°	42·9	84°	56°	28°	42·9

Nor are all parts of the Islands equally favorable. Selections must be made, and they can be, though neither Honolulu nor Lahaina, the two most populous and important seaports, is to be most highly recommended.

As the Islands are populated by a race of higher civilization, and as the luxuries of life are multiplied and diffused so that the best adapted localities shall furnish the essentials for an invalid life, and as the facilities for communication are increased and multiplied, the reputation of their most romantic and varied scenery, and their almost unparalleled salubrity, will rapidly make them a noted resort for the united objects of pleasure and health.

THE DISEASES OF THE HAWAIIAN ISLANDS.

With such a climate as just described, it will be asked, what of aggravated disease is to be expected. I reply, that the greatest number and worst aggravations of diseases among the native Hawaiians are due to their miserable modes of living. Did they live physiologically, they themselves would secure the same immunity from acute and destructive diseases that the natives of foreign lands among them enjoy, and might multiply, in contradiction of the nonsensical gibberish which speaks of "the *inevitable fate* of the Indian race before the foot of the Anglo-Saxon." Though in very many particulars improved, they still, as a nation, require medical reform. The effort would be an interesting one, to attempt, more directly and systematically than any of their benefactors have yet been able to do, the medical education of the islanders. This must, perhaps, be effected mainly through medical men of their own nation, educated by foreign physicians. And as such men, if of proper moral character, will be of eminent service in the civilization of other Pacific Ocean islanders, we may hope the attempt will soon be systematically commenced.

Their diseases are principally dependent on sudden variations of temperature (this, too, in a climate emphatically uniform)—on irregularity in diet,—and (though it involves a second paradox) on defective cleanliness, though habitually a nation of bathers—"causes which, it is believed, owing to general improvements, are annually less active in their nature, and in time will mostly be checked." (Jarvis.) The Hon. Mr. Wyllie, in his *Notes on the Hawaiian Islands*, remarks:—"Dr. Chapin considers that most of the diseases, to which the natives are subject, arise from cold, bad houses, and bad clothing. The means of preventing the operation of these causes are to be sought for only in the diffusion of wealth, created by general industry, for which there are superabundant elements."

We will first treat of SYPHILIS, pronounced by some, as by Dr. Chapin, "the monster disease." We here enter debated ground; but reliance on the testimony of judicious medical men, whose long residence there gives them authority to speak, will extricate us.

The stereotyped history of Syphilis among them runs thus:—The disease was unknown until the discovery of the islands by Capt. Cook. From his crew it was first communicated to the females of Waimea on Kauai and of Kealakeakua on Hawaii, and from thence it radiated through the unimpeded channels of licentiousness over the whole group, among all ranks. From 1778 till now the disease has done its work of mutilation and death, has manifested itself in all its hideous deformities, and has so destroyed the Hawaiian constitution that the nation is spoken of as physically rotten, and that the hopes of continued national existence are destroyed. I quote the *Narrative of the U. S. Ex. Expedition:* —"Mr. Whitney imputes this rapid decrease to foreign vicious habits, and both foreign and native authorities attribute the introduction of the venereal to the visit of Capt. Cook. This infection, brought to these Islands by the first voyagers, may now be said to pervade the whole population, and has reduced the natives to a morbid, sickly state; many of the women are incapable of child-bearing, and of the children which are born only a few live to maturity." Dr. Chapin, in *The American Journal of Medical Sciences*, says:—"With such an introduction, the venereal disease has for the past fifty-seven years continued to spread and increase; perpetuated and extended, too, by almost every vessel which touches at the Islands, till words fail to express the wretchedness and woe which have been the result. Foul ulcers, of many years' standing, both indolent and phagedenic, everywhere abound, and visages horridly deformed, eyes rendered blind, noses entirely destroyed, mouths monstrously drawn aside from their natural position, ulcerating palates, and almost useless arms and legs, mark most clearly the state and progress of the disease among that injured and helpless people." Rev. Artemas Bishop remarks:—"Their previous looseness of morals formed a ready conductor for the disease which was introduced by the first ship which touched here, and from the account given by the natives themselves, the consequences were incalculably more dreadful than had been feared by Capt. Cook and his associates. The deadly virus had a wide and rapid circulation throughout the blood, the bones, and sinews of the nation, and left in its course a train of wretchedness and misery which the very pen blushes to record. In the lapse of a few years, a dreadful mortality, heightened, if not induced, by their unholy intercourse, swept away one-half the population, leaving the dead un-buried for want of those able to perform the rites of sepulture." The following, by David Malo, a native Hawaiian writer, is worthy of quotation, for its just recognition of God's moral discipline exerting itself through the ordinary and natural laws of disease:—"This disease has become prevalent among the people, and even children, and all the people of the Islands are miserably diseased; and it is clear that, from the arrival of Capt. Cook to the present day, the people have been dying with the venereal disorder. Foreigners (David Malo, would, of course, make many exceptions) have lent their whole influence to make the Hawaiian Islands one great brothel. For this cause God is angry, and he is diminishing the people, and they are nigh unto desolation."

Though many of the above statements are incontrovertibly true, they, probably, convey an exaggerated view of a great and real evil. Knowing that the disease had been introduced and had been disastrous, many an ulcerous leg and ophthalmic eye, and nearly the whole body of deformities, congenital and acquired, together with all the barrenness of the females, were imputed to the monster disease. Still we shall not deny it the character of an important individual among their maladies, and one that, with several other grave causes which have each reacted on the other for evil, has materially assisted on the nation's calamity.

Another series of statements must also be subjected to doubt,—namely, that which, without broaching the involved question as to the previous existence of a venereal disease, would make that disease introduced by Capt. Cook different in kind from any thing which could have preceded, and very different in degree, if not in kind, from any thing now existing. This opinion need not, perhaps, be more particularly discussed in this paragraph, as our remarks on the third series of statements will further elucidate this.

The philosophical query, as to the true period of the inception of the disease among the Hawaiians, involves a discussion of the long-mooted question of its origin among Europeans—a debate we shall sedulously avoid. Whatever may be the theory of its existence in Europe or at the Sandwich Islands, anteriorly to the respectively accredited periods of 1493 and 1776, the fact seems undeniable, that at about those dates a disease, supposed to have been before unknown, spread with marvelous rapidity, attacking primarily the genitals, but introducing as accompaniments or sequelæ "excruciating nocturnal pains, corroding ulcers over the whole body, affections of the throat and nose, and, very frequently, death." (J. Bacot.) Whatever we may deem probable, or may demonstrate as certain, as to the anterior existence of genital diseases, it must be admitted, that, as in Europe, so at the Hawaiian Islands, there came a time when particular morbid developments on and near the organs of generation received unusual attention and were attended by constitutional symptoms unnoticed before, and by remote local diseases of unprecedented phagedenic character—that this new disease (as it was supposed to be) was contagious in a wonderful degree, and spread through the nation, and was a source of general dread, often proving miserably fatal. As proofs, we need but refer to such statements as just quoted from various residents, which are undeniable and decisive on these points, whatever we may judge as to their over-statement regarding the national degeneracy being mainly attributable to this monster.

With regard to the present condition of the disease, it seems also undeniable that as in Europe, so at the Sandwich Islands, Syphilis has ceased to be a dread, and though there be many syphilised constitutions, the immediate developments of the disease are not usually found save in the channels of systematic prostitution. And, in confirmation, I will quote, first, a report made in 1839, before the annual meeting of the Protestant Mission of the Islands, by a committee consisting of the physicians of the mission, who, at that time, constituted by far the majority of the resident physicians. I transcribe a considerable portion of the report for its intrinsic importance, though the last sentence quoted is that bearing directly on the subject at issue.

"1. That they find the climate of the Islands highly favorable to the development and perfection of the animal economy, the mean temperature being within a few degrees of that point which physiologists consider most favorable to human life, and free from those sudden and great changes to which most other climates are subject.

"2. That notwithstanding the favorableness of the climate, they find an unusual amount of disease among the natives, especially of the sub-acute character, which, though for the most part not very painful, tends always to undermine the constitution and pave the way to a premature grave.

"3. That the immediate causes of most of their maladies are plainly ascribable to their frequent violation of the first principles of correct living; to their low estimate of life, and recklessness of themselves; to their wretched habitations, which furnish little comfort or protection; to their practice of lying on the damp ground; to want of protection by clothing, in exhausted conditions of the system, against vicissitudes of the weather; and to their poverty, which keeps them strangers to necessaries and comforts.

"4. That we have witnessed no fatal epidemics since we arrived at the Islands, and that, of those diseases depending upon a specific contagion, almost no lives are now lost. * * The venereal disease, which, probably, did once make considerable havoc among this people, seems now so far to have worn itself out, that we seldom see it as recently contracted, except about the harbors, and there not extensively, and very few deaths from it have occurred in our practice. Neither do we perceive that this disease materially retards the increase of population on these Islands."

Dr. Lafon, several years a resident at those Islands, affirms, in reference to abortions, that they are no more frequent than elsewhere, and that they very rarely have connection with Syphilis; and as to the effects of the disease on the progeny, it also is infrequent. He unhesitatingly asserts that mistakes are made in attributing to Syphilis the great body of ulcers and tumors and other occasional results of the disease.

Mr. Jarvis, in his History, says:—"The venereal disease has almost exhausted itself, and it is rarely to be met with, except about the sea-ports, where the virus is kept active by augmentation from foreign countries. Even in these places it does not prevail either extensively or fatally, nor can it be said materially to retard the increase of population at the present time."

These authorities, who bring with them every element of reliability, agree in the assertion that primary Syphilis is comparatively rare. Who will, then, question the direct and inevitable inference that secondary Syphilis must be at least as infrequent. And if this be established, it will be seen, as before intimated, that that class or form of statements which pronounces the Hawaiian constitution syphilitically rotten, and which solves the problem regarding depopulation by the asserted prevalence of the venereal taint, must be in some degree erroneous. With the above facts before us, the national constitution cannot be affirmed to be syphilitically destroyed, unless the theory be developed that individuals and a people may be so tainted by this disease, through their ancestors, as to lose their powers of procreation. Such a theory will, so far as I am aware, be a new one to the medical world. Without doubt, syphilitic children of syphilitic parents attain to less vigor and are more liable to disease, and, so far as these causes are operative, may be possessed of less virility; but have we evidence of a specific effect on the procreative faculties of the descendants? Is there naught that destroys virility but Syphilis? And if such a fact or law as the above theory be yet proved, we must neither then nor now ignore the much more palpable and better known causes to which we shall presently allude.

It will be noticed that our authorities speak of the disease having "worn itself out," and of its having "exhausted itself." These expressions cannot have been intended by their authors to be taken in a rigid medical construction, as though it were proved that this virus did, by any law in any community, lose its inherent virulence. It will be sufficient to say of the period of aggravated syphilitic affections at the Hawaiian Islands, as of that in Europe, that by a better acquaintance with the medication of the disease, and with the laws of its propagation, and also by the consequent removal of the veil of mystery, the era of dread and devastation was passed. It may also be suggested that Syphilis, like other diseases, may have its periods of aggravation from unknown epidemic causes, and that the syphilitic periods of Europe and the Hawaiian Islands may have been complicated with such causes. It must also be borne in mind that the morals of the people have since that time been improved —a cause which would alone tend to lessen the evil. It must also be noticed that at the Sandwich Islands, during the period in question, there existed certain political and civil conditions which served as great aggravations not only to the syphilitic but to other affections, and that these conditions are not now as disastrous as then. We pass on to a more particular consideration of these conditions.

The question now presses itself as to those causes of depopulation, to which allusion has been made, on the supposition that they were of themselves sufficient without an overpowering and still active syphilis. I answer it by quotations of some length from Mr. Jarvis' *History*, and will leave it for others to judge whether they are not conditions sufficiently disastrous not only to directly diminish the number, but even to lessen the fecundity of the nation, especially when we superadd the readily acknowledged disaster of Syphilis in its usual and well known degrees.

"Since the time of Cook a rapid decrease has occurred. Neither is this melancholy result of difficult solution. The population of the Islands probably never amounted to what, with the aids of civilization, they could be made capable of supporting. During their heathen state, though divided into many hostile tribes, perpetually engaged in warfare, their battles, from the imperfection of their weapons, were comparatively bloodless. That very condition served to develop enterprise and a national spirit, though accompanied with beastly excesses, and thus a spirit favorable to physical growth was stimulated. The boundless hospitality which every chief was obliged by the spirit of his race to exercise, and which prevailed even among the canaille, always found food and shelter for the oppressed. A man dissatisfied with one master had but to flee to another, and he was sheltered and welcomed. Taxes were heavy and much labor required, but as it was generally for the support of the whole, an interested motive existed. The same work which would destroy the energies of a man who was to receive no reward for his toil, would produce health and cheerfulness in one who had an interest in the result. Every individual had that to some extent in the wealth and success of his chief; hence a patriarchal feeling was developed, which, with long used and uncontested power, will sufficiently account for the deep reverence, fear, and canine-like attachment, with which the common people regarded their superiors. Exceptions to this no doubt prevailed, and much misery was the consequence; but as a general principle it was correct, and stands in strong contrast with the relative condition of the two classes, after a thirst for foreign wealth was developed by intercourse with whites. A grasping, avaricious disposition succeeded; ends were to be attained regardless of the means used. The little natural human feeling the chiefs possessed, was extinguished by an all-powerful passion for gain. Interested foreigners stimulated this desire; cargoes of rich goods were brought, luxuries displayed, and no means left untried to excite their cupidity. The unfortunate result is well known. The whole physical resources of the kingdom were over-wrought, and women and children were taxed beyond their powers. Sandal wood was to be collected; mountains and valleys almost inaccessible were to be penetrated, and heavy loads borne on bleeding shoulders to the sea-side. Like the children of Israel, their toil was doubled and their sufferings found no consideration in the eyes of their cruel task-masters. Cultivation was neglected, and famine ensued. Multitudes perished under their burdens;

others left their homes and wandered like wild beasts in the depths of forests, where they either slowly sunk under the horrors of want and starvation, or sustained a miserable existence on roots and wild fruits. Blind to the consequences, the chiefs continued the same policy. Debts were contracted which must be discharged, and increased taxes were imposed. No property was safe. A native could neither hold nor acquire—all was his chief's—even his children became a source of additional suffering, for every head was taxed!—infanticide greatly increased;—parents gave away their offspring, and the natural feelings of the nation were crushed beneath this iron despotism. Life became a wearisome burthen; numbers of the most active sought safety and employment abroad. The first effects of Christianity added to this already intolerable load. So long had this system been pursued, that no other plan of public works, than the compulsory labor of the whole population, seemed feasible. Regardless of the instruction and advice of their religious teachers, they added to their labors the toil of building churches, school-houses, and other works, necessary in themselves, but erected by unholy means. This system prevailed in later days, with mitigations, however, until 1838, when it began to give way before the combined influences of the mission and foreign residents, and the more enlightened efforts of the native population.

"Before Cook's visit, diseases were few and simple. Subsequently they increased in number and virulence, while the remedies and knowledge necessary for arresting them remained unknown; the fatality attending novel illness, the progress of which they knew not how to arrest, produced a deep and often fatal spirit of despondency.

"Alcohol and licentiousness have usually been considered the most aggravated causes of depopulation; but their influence has been exaggerated. The habits of the natives in both respects are now better than they were before their discovery, when drunkenness, produced by the use of *awa*, and promiscuous intercourse and incest were almost parts of their natures.

"A powerful agent, though one the effects of which have been greatly overlooked, is the partial adoption of foreign clothing. This may seem paradoxical; but unfortunately it is too true. * * Many would wear their clothes but part of the time, and then, finding them inconvenient from extra heat or cold, throw them aside altogether. The utmost irregularity prevailed, not only from poverty, but from carelessness and from ignorance of the results. * * Their constitutions, already enfeebled, from causes before mentioned, could ill bear such treatment. Colds and fevers greatly increased, and of a more fatal tendency. Trivial predispositions to disease were aggravated, and death was the frequent result of attacks which the slightest prudence could have obviated.

"Much else might be named, which would cause the philanthropist less to wonder why they decrease, than that it should have been so slight in comparison to the many causes so actively at work to create it. * * It must be remembered that these causes were all additional to those which existed prior to their discovery, and which were of themselves sufficiently active to prevent any rapid increase."

The Hon. R. C. Wyllie, speaking of the supposed depopulation by Syphilis, says:—"There no doubt has been, and, I fear, still to a great extent exists a cause, in the laxity of native morals, why that disease should be propagated with unusual universality, and that very cause will add to the effect of disease in preventing offspring; but the outward appearance of fat and health, more general here amongst the natives than amongst the Indian tribes of Mexico, or any country in South America, is opposed to the belief of such an inward rottenness as could render the race unprolific, without the influence of other causes." The opinion of a gentleman of such eminent intelligence and general and medical information weighs much.

It is but proper that, before leaving this topic, I refer more particularly to Dr. Chapin's articles, especially to that in *The Boston Medical and Surgical Journal*, Vol. 42, No. 5, where a greater potency is ascribed to the venereal than I have admitted. He maintains the syphilitic origin of a large number of affections, because "mercurial remedies" alone effectually reached them; and upon this the query rises, whether this be the best or proper test for the diagnosis of venereal. But though his diagnosis be both admitted and proved, it still remains to be established that the lack of fecundity among the Hawaiians, as compared with "the lowest class of Irish, and with the blacks of our own southern States (neither of whom are more moral, or regular in their lives, nor more temperate, nor better fed)," justifies us in counting Syphilis "the most prominent cause of disease at the Sandwich Islands." I trust the above discussion has gathered light on the subject.

Having thus dismissed the consideration of Syphilis, I shall not find a fitter place than the present to express a thought concerning the prophecy of the extinction of the Hawaiian race, founded on the ancient canon that all so-called Indian races must vanish before the Anglo-Saxon. The canon is based on an unfair and unchristian induction, which involves the supposition that Anglo-Saxon intercourse must always be attended by those Anglo-Saxon immoralities which have been the real destroyers, and that it is impossible in any instance to correct the effects of such commerce. Whatever shall be the ultimate fate of this interesting race, the efforts of no philanthropists should be damped by unfounded predictions. There is yet hope for a small remnant of this and other races which Anglo-Saxon would-be-philosophers have destined to annihilation. I again quote from Mr. Jarvis, the able and impartial historian. "Their depopulation was more rapid, as far as can be ascertained, in the reigns of Kamehameha II., and his successor Liholiho, than at a more recent period. As Christianity and civilization have advanced, in just that proportion has this mortality ceased. Their effects are of too recent a nature to predict the final consequences, but it may be confidently expected, that as the fatal tendencies are counteracted, and others allowed to operate, good results will ensue." "Evil as the most active principle may for a while riot uncontrolled, counteracting and more powerful tendencies are at work, which must eventually neutralize and overcome the former."

SCROFULA, considered apart from consumption, is reported as one of the frequent causes of disease among the native population. Dr. Judd says:—"Scrofula is very common in the various forms of goitre, ulcers, tabes, etc." Dr. Chapin says:—"Scrofula is not only frequent, but extremely malignant." Its cause is a little obscure, though it is, perhaps, readily enough given, if we use the general language which the custom of medical authorities on this subject allows us. We can, without difficulty, enumerate a number of debilitating causes; and if, with Dr. Alison, we limit "the causes of debility" to those "acting permanently, or habitually for a length of time, although not so powerfully as to produce sudden or violent effects," we may refer to their miserable houses, which are no sufficient protection from the weather, and in which they sit and sleep on the ground, with only a mat or two intervening. It is, indeed, their universal habit to make the ground their seat, which is everywhere more or less damp. Com. Wilkes, in speaking of their diseases, says:—"Many of them are brought on by living in their grass houses, which are by no means impervious to the weather. Another frequent cause is the partial decomposition of the grasses with which they are thatched on the roof and sides. In passing into them I invariably experienced a smell of mustiness, and a mouldy appearance is frequently seen about their mats and tapas." Says Mr. Jarvis:—"The houses of the common orders were mere hovels, made of straw, thatched upon a light wooden frame. They were low, small, and damp, and generally filthy within and without."

Their clothing, too, was partial and insufficient. The primitive Hawaiian costume, which is now rapidly giving place to more civilized habits of dress, was prepared of the bark of trees, and consisted of a sheet tied at two corners and thrown over the shoulders, with another narrow strip wound round the loins and passing between the legs—or, for a female, a long piece about a yard in width, wound about the lower part of the body and descending to the knees, with, perhaps, a sort of shawl of the same.

Their food, too, was irregular, often "bad and deficient," and always principally "vegetable food." If these, as Mr. Philips contends, are productive of scrofula, we certainly can account for its existence among these islanders, for their food was almost exclusively vegetable, being preparations of the *arum esculentium.* Fish was frequently an adjuvant, but it was rather an occasional than constant article of diet.

But the question arises, how, if, indeed, their modes of domiciliation and clothing and dieting be efficient producing causes, did they once, as a nation, thrive with comparatively little scrofula, though their houses and modes of dress and articles of food were essentially the same. The difficulty is, I think, satisfactorily met by the statements regarding the causes of depopulation already made. Their political conditions for long years rendered their preparations of food less ample and timely, their houses even less comfortable and habitable, and their clothing less complete and protecting.

Whether marriages between different races tend, as is generally supposed, to produce the scrofulous diathesis, the fact is interesting that, at the Hawaiian Islands, the children of alliances between the natives and Chinese, or negroes, or any of the Enropean nations, are far more healthy, and are better physically developed than those of pure Hawaiian blood. This may, however, only be because the indigenous race is so far exhausted that foreign blood is, with all its disadvantages, better than their own; or, more probably, because such descent generally receives more appropriate and efficient parental care.

Malarious Diseases, of all types, are rare, if not unknown—either because malaria is not there present, or because, if generated, it is so quickly dispersed.

How simple and beautifully circular the usual process of reasoning on this subject! Wherever malarious diseases prevail, there certainly malaria is present, and if, in investigating the causes of disease, we inquire for malaria, its absence is conclusively shown by the absence of recurring fevers, even though, as at the Sandwich Islands, sheets of stagnant water expose their surfaces to the constant action of a tropic sun, and though the inhabitants build their houses on embankments in the midst of the exhalations (either malarious, or the opposite), which must constantly rise.

Their "taro patches" are artificial ponds of water in which the taro is planted. These, in advantageous localities, are crowded very closely together, and present very considerable areas of water, and in among these ponds the natives very frequently live, enjoying as perfect health as elsewhere.

This might be urged as a proof of the fallacy of the malarious theory of periodic fevers, yet without much force, for even if it be proved that malaria is here generated, the fact of its harmlessness is readily explained by reference to the influence of the winds, which are felt more or less constantly and directly on all parts of the groups. On this subject Dr. Chapin makes an important remark:—"It might be an interesting subject of inquiry, which I have not seen discussed, why the islands generally, throughout the world, if we except those spots covered by cities, made pestilential by crowded populations, are so free from those poisonous exhalations which abound on the continents, so generally between the tropics, and, during the warm weather, over such an extent of the temperate zones, especially along the rivers." "On the continents are large marshes, putrid with vegetable and animal decomposition, draining into streams nearly stagnant from the sluggishness of their courses, whilst on the islands, swamps are less abundant, and the streams are short, fresh, and rapid, and whatever malaria is generated is quickly diluted, and borne off by the passing sea breezes, and thus rendered innocuous."

But we may even question whether the same bodies of water in the same soil, in regions remote from the trades, would be prolific of malaria; for, first, the ponds are every few days receiving fresh supplies of water; and, secondly, the soil is not that which, from its extreme richness in vegetable matters, would be supposed able to part with much that is noxious; and, thirdly, the ponds are kept almost constantly full, so that parts once moistened are kept submerged. Besides these taro patches, the few possible sources of malaria are utterly insignificant.

"With so entire an exemption from the existence of miasmata, there is also an entire exemption from those affections induced by it. Malignant bilious fevers do not occur, and * * * derangements of the liver and biliary organs do not prevail, neither are the stomach and intestinal canal, and other organs of the abdominal viscera subject to the numerous and complicated affections so common in every miasmatic region." (Dr. Chapin.)

Yet in 1803 or 1804, a pestilence raged which has by some been supposed to have been yellow fever, and by others, Asiatic cholera. "In the year 1804, when the late King Kamehameha was on his way from Hawaii to invade Kauai, he halted with an army of eight thousand men at Oahu. The yellow fever broke out among the troops, and in the course of a few days swept away more than two-thirds of them." (Journal of Tyerman and Bennet, vol. 2., p. 48.) "The great pestilence of 1803 destroyed multitudes, and has been supposed to have partaken of the character of the Asiatic cholera." (Jarvis' *History*.) Of this disease we can only say, that it probably was not either yellow fever or cholera.

Other forms of *Fevers*, not exanthematous, though "the most frequent and numerous class of diseases among the native population, are by no means the most malignant and fatal. * * * The excitable state of the system which predisposes strongly to febrile attacks, is not common at these Islands. The continued and oppressive heat is there not sufficient of itself to produce it, and the universal custom among the people, to repose during the hottest part of the day, aids in counteracting other unfavorable influences. The simplicity, too, of their diet and habits of life is not calculated to promote a state of excitability." (Dr. Chapin.) The fevers are apt, I should judge, sometimes to take on the symptoms generally termed typhoid, though malignant typhus is rarely seen.

Of the *Exanthematous Fevers* little can be said, save that they have at occasional intervals been introduced. The natives seem never to have had them previous to the discovery of the Islands, and their insular position protected them for some time subsequently.

In 1848, *the Measles* in some unknown way made its advent among the unfortunate islanders. They had never before seen the disease—the symptoms were to them new and singular. It was difficult to impart to the masses the proper mode of treatment, and they, in their ignorance, during its eruptive period, under the disagreeable sensations of heat, frequently made applications of or immersed themselves in cold water, making it tenfold more than usually fatal.

Small-pox has never spread among the people, and should it now arrive they are probably quite well prepared for it by vaccination.*

In 1839, *Mumps* were introduced (though I violate order in noticing it here), and "prevailed very generally, and in some cases terminated fatally through mismanagment."

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* In May, 1853, the small-pox appeared for the *first time* on the Sandwich Islands, and it spread with fearful rapidity and unprecedented mortality, about 6,000 of the unfortunate victims of the disease, or *eight per cent. of the entire population*, having been swept off in the space of eight months.

The malady is believed to have originated on the Islands from fomites, that had been conveyed from San Francisco to Honolulu in a chest of cast-off clothing. As the disease extended in Honolulu and its vicinity, the natives became panic-stricken, and fled in wild confusion and alarm to remote districts of that Island (Oahu), and to the other Islands; thus unhappily conveying the pestilential infection throughout the entire group of Islands, and to almost every community. The disease was of the gravest type, and was manifestly rendered thus by a most marked variolous epidemic constitution.

I have deemed it important to add to this valuable essay of my friend, Dr. Gulick, the above brief notice of the most terrific and fatal epidemic of variola that has ever been recorded. ELISHA HARRIS.

Rheumatism is a frequent malady among the islanders, as a consequence of their irregular life and extreme imprudence in spending their nights on the ground, and of "their habits of continuing long in the water and exposing their bare bodies to strong currents of wind, when overcome with heat and covered with perspiration."

Dr. Chapin speaks of its "very frequent occurrence, notwithstanding the very prevalent belief that it is almost peculiarly a disease of cold and variable climates, and is rarely met with in warm and uniform climates." He remarks with great justness that—"The constitution becomes so impressible in warm climates, that very slight variations in the atmosphere are as severely felt as the greatest changes with us." And from this prevalence at the Sandwich Islands he infers its presence "at the adjacent islands, and at all places throughout the inter-tropic regions, where the same exciting causes exist." At these islands "the disease is usually mild in its attacks, soon passes off, even without the application of medicinal means, and is seldom followed by severe secondary effects."

Primary derangements of *the Nervous System* constitute but a very small part of their diseases. *Insanity*, as might be expected from their quiet, simple mode of life, is not frequent. Among the females, *Hysterical* tendencies are not marked. *Chorea* is occasionally met with. *Paralysis* is more frequent, and Dr. Lafon attributes it to their long-continued sitting and sleeping on the damp ground, by which, not only their fibrous, but their nervous tissues are affected.

Pulmonary Affections are frequent and important. In an address before the Royal Hawaiian Agricultural Society, the Hon. Luther Severance says:—"If every native would wear a woolen shirt, and sleep at night under a woolen blanket, I think there would be less of asthma and other affections of the lungs, induced as these diseases probably are by exposure to the strong winds, while the pores of the skin are opened by profuse perspiration." (*Transactions of the R. H. A. Society*, Vol. 1, p. 2.)

Chronic Bronchitis is so frequent and universal among the Hawaiians as hardly to receive attention. The mucous surface of their lungs seems to be peculiarly susceptible to external influences. Dr. Lafon, speaking of the "day-break prayer-meetings," says that for the first twenty minutes it was generally scarcely possible to proceed with the religious exercises, from the incessant coughing of the congregation. It was as though each one was under the necessity of expectorating a certain amount of mucus before respiration could be comfortably carried on. The causes are evidently those already so frequently mentioned—their unhealthy exposures both within and without doors.

Catarrhs are of course to be expected, though mild, and generally the result of exposures and sudden alternations of temperature. Dr. Judd remarks:—"The *Influenza* (epidemic catarrh) usually prevails every spring." Dr. Chapin speaks of them as "usually mild in their character, ephemeral in their existence; they easily yield to immediate applications and rarely pass into the more inveterate and fatal stages of pulmonic disease." Some, however, of these epidemics are much more serious, and their effects remain long after their departure. About four years since (1846) an epidemic of this kind prevailed over the group and was in some cases fatal, from untoward complications and bad management. And again in 1848–9 another epidemic arrived as a successor upon the measles, and was more than usually fatal. It would be of some interest to ascertain whether these influenzas have any relation to the direction of the winds, or, as has been suggested, to volcanic exhalations. The remote position of the group is very favorable for the investigation of the causes of disease, especially of the mooted questions regarding the contagious and epidemic character of maladies.

Asthmas are enumerated by writers among the diseases of the Sandwich islanders; but the term is used so indefinitely that little can be learned from the statement. Dr. Judd, speaking of the annoyance from dust, says:—"It is, no doubt, a very efficient cause of the frequent occurrence of asthma among the natives." Dr. Chapin mentions, as a cause of asthma, "a habit, among the chiefs and wealthier portion of the common people, of inordinate eating, amounting even to gluttony," when "their capacious stomachs are distended not less than four or five times a day with truly surprising quantities of fish and poi."

Pneumonia and *Pleurisy* are mentioned: they cannot, however, be called zymotic diseases—they are, rather, accidental.

Croup among the natives is usually fatal. Dr. Chapin mentions its having prevailed epidemically once during his residence there. "Hoapili-wahine, a chief woman of high rank, upwards of seventy years of age, died of this disease in January, 1842." (Jarvis.)

Whooping Cough has been once prevalent, but soon disappeared.

Phthisis Pulmonalis is a very rare disease at the Hawaiian Islands. Dr. Judd says:—"This comparative exemption of a population—which is allowed on all hands to be fast wasting away—from one of the most fatal diseases of the United States and England, affords evidence that the climate is unfavorable to it."

An investigation of the causes of their entire exemption from pulmonary tuberculosis is one of much interest, especially if that disease is to be considered as dependent upon the scrofulous diathesis. The uniformity of temperature is certainly favorable, but why are not the producers of the other varieties of scrofula productive also of this? Is it that, for the development of phthisical scrofulosis, a close impurity of air is generally essential, by its immediate interference with respiration, and so, as it were, by centering upon the lungs in a primary degree the development of the scrofulous diathesis; while, if the glandular system be most impeded in the performance of its functions, through and upon it will the diathesis be principally exhibited in specific scrofula? If this be accepted, the out-door lives which the Sandwich islanders live may be supposed to preserve them from that imperfect respiration, and so, from consumption, notwithstanding the untoward effects of many of their other habits, while the glandular system succumbs before the ready waiting enemy, incapable of receiving such relief and palliation of evil from fresh air, and even from that very exposure being made still more liable.

Foreign residents are completely exempted from such tendencies. Several members of the mission have entered the field with pulmonary affections, who were regarded as doomed to certain and premature death if they remained in this country (the United States), who now enjoy good health, and are entirely free from any abiding symptoms of disordered lungs." (Dr. Chapin.)

The remarks previously made, regarding the adaptation of the Hawaiian climate to persons of phthisical tendencies, are applicable here. The entire absence of Phthisis among the foreign and native inhabitants, with the mentioned instances of cure effected by a residence there, confirm the anticipations we might found on the mild uniformity of the climate.

There is one disadvantage, however, mentioned by Com. Wilkes, namely, "the great difference in the degree of moisture which exists within a few miles." This must be acknowledged a drawback, and though localities may be fixed on, enjoying proper mediums of moisture and heat, it would be difficult to confine a patient closely to them. But let me suggest that the mere fact of considerable moisture is not conclusive against a place as a residence for consumptives, especially if it fall, as it does at these Islands, during the summer season, in brisk refreshing showers, followed by beautiful sunshine, and leaving all nature revived and invigorated.

I repeat, that the Sandwich Islands will, as facilities of travel increase, become one of the places of resort for invalids, especially during the summer season; for the beauty, grandeur, variety and novelty of the scenery will alone be a potent attractive, and the journeyings to enjoy it be efficient remedial agents.

Derangements of the functions of *the alimentary canal* are numerous, and frequently fatal among the islanders. Their irregularities in diet, with their habitual violation of all prudential laws, are causes sufficiently comprehensive.

Diarrhœa and *Dysentery* are common. "Beside the usual exciting causes which prevail in most places, they have an additional fruitful source, in a blind and barbarous practice of using immoderately the most powerful and drastic cathartics. I have known a case in which the average operations of four cathartics, given to disperse dropsy, were twenty-one, the aggregate eighty-four; and another case in which a man, from a fear that he would be sick, took such an enormous dose of the calebash, as to produce a hemorrhagy, which proved fatal within a few hours." (Chapin.)

Hepatitis, with all the other affections of the liver, are seldom met. The climate seems to be proof against that monster of civilized life—"the liver complaint"!! This exemption extends to all who reside there. "The frequent occurrence in hot climates, is ascribed by Dr. Saunders and others to the prevalence of a peculiar miasm in those regions, and if this be true, hepatitis will not be expected to predominate at the Sandwich Islands, where there is no evidence of any miasm whatever. Indeed, hepatic disorders are not merely uncommon there, but they do not appear to be incident to those seas. The Pacific is thronged with American and English whaling vessels, which cruise from three to four years, and, as they change their ground to the north and south of the equator, with the change of the seasons they are continually exposed to the hottest latitudes, and are much of the time in the torrid zone. Of these a large number touch semi-annually at the Islands for supplies, and though my practice among the seamen has been extensive, I have been called to prescribe for only two or three cases of inflammation of the liver, and in no instance have I met with the disease in its acute form. The heat to which the sailors are subjected, during calms at sea, is often intense; and if the existence of hepatic disorders is owing mainly to the close sympathy between the biliary and respiratory organs, the etiology proposed by Dr. Johnson, I certainly ought to have met oftener with it. * * Two or three gentlemen of the mission, who had chronic diseases of the liver when they went to the Islands, have not only spent several years without any exacerbation, but one of them is quite relieved from the complaint." (Chapin.)

"*Worms* in the intestinal canal are not, so far as my observation has extended, of usual occurrence. The children of the mission, who numbered more than sixty, were entirely exempt, and no case of the existence of worms among the native population came to my knowledge. One individual, a native of this country, who had been for several years a resident of the Islands, was affected with ascarides, and this was the only case I met with." (Dr. Chapin.)

Diseases of the Eye are frequent. Blindness is not uncommon. "Ophthalmia, of the purulent form, abounds in every portion of the group, and opaque corneas and thickened coats of the eyes are very numerous. The old and the young are alike affected with this disease; very small children are occasionally met with nearly blind with its effects. I at one time attributed its prevalence to the effects of the clouds of sand, often raised and blown about with great violence by the trade-winds; but finding it equally common in those districts where frequent rains prevent the dust from ever rising, there appeared to be no other cause so active as the trade-winds, which come mingled with salt spray." (Dr. Chapin.)

Cutaneous Diseases are said to be numerous, though the names of varieties are not mentioned, except those of "*scabies*," and a disease called "*poupou*," spoken of by Com. Wilkes. "Though the Sandwich islanders are remarkably fond of the water, and are fastidiously particular in their practices of washing and bathing, they are, nevertheless, extremely filthy and squalid in many of their habits of life. With their beasts and fowls in the same habitation, and not unfrequently on the same mats with themselves, their often-repeated ablutions will be regarded as timely. The kapa, or native cloth, used by the inhabitants, is worn without cleansing, till, having become foul with vermin and dirt, and too ragged to serve longer the purposes of covering or protection, it is lain aside. Hence diseases, induced or exacerbated by such causes, have at those Islands a fruitful soil, and flourish luxuriantly. The *itch* is extremely prevalent, and often assumes a virulence unseen in this country. The pustules sometimes, becoming confluent, are converted into large and troublesome ulcers." (Dr. Chapin.) These details regarding their clothing apply rather to the past than the present—yet they are, no doubt, still too true.

From the Hon. Mr. Wyllie's "notes" I quote the following:—"In a valuable manuscript paper of Dr. Rooke's, to which I have had access, he adds *Puerperal Fever* as very common and very fatal. Excepting that disease, apoplexy, croup, and dropsy, the others are stated to be generally mild, yielding easily to proper care and medical treatment."

The *Therapeutic Constitution* of the Hawaiians is not, so far as I can learn, peculiar, save that their systems seem not as susceptible as ours to influences of a morbific or remedial character. Their life seems not of so high a grade as ours. Their nervous systems are not as fully developed, and are with greater difficulty impressed by external influences. It it this fact which, I think, accounts for their being able to exist, undermined as their constitution has been, and adhering to modes of living which would prove rapidly fatal to the same number of the most robust of the Anglo-Saxon race; for it will be remembered, that their lives of exposure are very different from those exposures connected with the incessant activity and vigilance incident to journeys and heroic exploits, which may ever be encountered with impunity.

THE MATERIA MEDICA OF THE HAWAIIAN ISLANDS.

This portion of my essay is meagre. It is with difficulty I have collected that which I give. How desirable that men of medical intelligence should investigate and report on this and the several other points of interest connected with the climate and diseases of Polynesia.

I will first notice such of the Materia Medica and remedial practices, originally employed by native Hawaiians, as I am informed of, and will then enumerate those other indigenous Materia Medica, not, so far as I am aware, included in the native Hawaiian Dispensary; and will thirdly notice such medicinal vegetables as have been introduced since the discovery of the Islands, enumerating both the unofficinal and officinal.

And *first*—To pass unnoticed the Materia Medica of a savage people, simply because employed by savages, is unreasonable and impolitic; for, have not all medicines been first employed empirically—has not our science been built up from empiricism—and have not the great body of our vegetable Materia Medica been first used by ignorant and even savage empirics? Might it not be possible, by a complete canvassing, to learn something even from Hawaiian empiricism?

The *Arum esculentium* is a plant very nearly allied to the arum maculatum and arum tryphillium in all its external habits and properties, and probably, like them, possesses a "property of stimulating the secretions, particularly those of the skin and lungs." (U. S. Dispensatory.) It is the principal article of diet among the Hawaiians. The heat of the oven dispels its peculiar acrid principle and renders it a very nutritious and valuable article of diet, had in great esteem by foreigners, but especially by the natives. The acridity is probably reduced by cultivation, but a very considerable portion of it is still retained. Says Dr. Chapin:—"It is, when raw, very styptic and acrid, and the skin of the root is used by the natives in the cure of dysenteries and intestinal hæmorrhages."

The *Cucurbita lagenaria*, or gourd, is used as a purgative. It is, in its medical properties, allied to several of the cucurbitacæ, particularly to the cucumis colocynthis. "The pulp of the root is used," says Dr. Chapin, "and in large doses it is terribly drastic. The inordinate doses given by the natives sometimes produce dysentery, rapidly fatal." Dr. Judd relates the case of a woman purged to death with this article by a native physician for an imagined disease. "About four feet of the green running vine of the bitter calabash, or gourd, thirty-two of the hollow stems which support the leaves, and about one ounce of the dry pulp, next the shell, of the dried gourd were pounded together on a board and the juice mixed with about three pints of water." "It is used by them successfully in dropsies. I once knew a native, with abdominal dropsy, cured by one of his own physicians with this article, after he had been treated unsuccessfully by foreign skill." (Dr. Chapin.)

A variety of *Ipomea* is mentioned by Dr. Chapin. "The roots are used by the natives as an emetico-cathartic. I tried it somewhat, and found it had efficacy; but the doses requisite were so large and the trouble of preparing it such, I abandoned it." I am utterly unable to give the specific title. It is questionable whether its medical powers have been fully ascertained.

The *Aleurites triloba*, or candle-nut, is one of the articles of the Hawaiian Dispensary. "The kernels of these are stuck, one over another, like beads, upon a fibre of cocoa-nut leaf, a foot long, and, containing a considerable proportion of inflammable oil, they give sufficient light for ordinary purposes, the flame communicating downward till the last piece is consumed. Sometimes five or six such strings, two yards in length, are wrapped together in a leaf of banana, and carried before the king, as flambeaux, when he travels by night." (Tyerman and Bennet's Journal.) Dr. Chapin remarks:—"I know it to be used as a cathartic, but never experimented with it myself." An oil extracted from this nut forms an article of export for painting—may it not have available medicinal properties?

The *Piper methysticum*, called "*ava*" by the Hawaiians, is one of the most important of their indigenous Materia Medica. From it they prepared a narcotic drink, esteemed throughout Polynesia. The bark of its stem is possessed of the peculiar properties of the plant, but it is the root which was principally used by them. "They prepared it for use by mastication. A person chews it thoroughly, and ejects it with the accumulated saliva into a dish, in which state it is drunk by the patient. Most of their medicines they prepare in the same manner." In continuation, Dr. Chapin says to the author:—"I supposed it might be serviceable as an anodyne: I gave it repeatedly in powder. It did not seem to possess narcotic properties, and after a number of trials with it I gave it up. The natives, as they said, used it to cure cutaneous diseases, by producing desquamation of the cuticle. They give it daily in such quantities as at length to accomplish the object. I think the article deserves further trial." Mr. Bingham informs me that "the juice is highly valued, and was much used both as a luxury and as a medicine, as alcohol still is in wiser countries. A singular effect of taking a course of ava was the cracking and coming off of the cuticle over the whole body of the patient, with which, it was maintained, the system parted with maladies." Mr. Jarvis says:—"Its effects were very pernicious, covering the body with a white scurf, * * * inflaming the eyes and causing premature decrepitude. It was also taken as a medicine, and was supposed to be an effectual remedy for corpulence." Mr. Ellis speaks of the "burning effect and unpleasant taste of the ava." A few years since, a gentleman, long a resident of the Islands, proposed exporting it to the United States, and there manufacturing of it some nostrum—which might, no doubt, have become as popular as Townsend's Sarsaparilla! Its medicinal properties are, perhaps, allied to those of the *Piper augustifolium*, or Matico, of which the U. S. Dispensatory says:—"Its most useful internal application is, probably, as an alterative stimulant to the diseased mucous membranes."

The Dispensatory refers to an article by Mr. Morson, on the *Ava*, in *The Pharm. Journal and Transactions*, Vol. 3, p. 472, which I have not been able to obtain.

The Vapor of Hot Water was, it seems, employed by the Hawaiians, and though a practice not peculiarly their own, the mode of administration, as related by Dr. Chapin, may amuse and instruct. "Prolapsus uteri they relieved by steaming over heated stringent herbs. Febrile diseases, rheumatisms, and many others, were treated by steaming. The patient was wrapped in green leaves, freshly picked, and laid on a bed of heated stones. If he writhed under the intensity of the heat he was held still by attendants. If he died, the doctor and all ran away!" How striking the similitude between the Hawaiian and the American quack, both in the mode of practice and in manner of escape!

But their characteristic mode of alleviating pain is the *Lomilomi*—a systematic kneading, and pressing, and squeezing, and rubbing, employed in all cases of fatigue or pain, where not intolerable. To appreciate fully the virtues of the practice, one must himself be operated on by a practical Hawaiian. It is, in many cases, most admirable. "People were especially trained to lomilomi; a kind of luxurious kneading or shampooing, and stretching, and cracking the joints, which seemed completely to renovate the system, when suffering either from a surfeit or fatigue. The fatter the chiefs, the more they required the operation." "The most delightful of the traveler's comforts is the lomilomi. It is something between a squeeze and a pinch, which none but a native knows how to perform; commencing gently, and increasing in violence as they proceed, every limb in the body is subjected to this treatment. It is, as a friend terms it, a physical regeneration. (Jarvis.)

A few articles of our Materia Medica, though not employed by the Hawaiian practitioner, are found indigenous upon the Islands, and should be mentioned. The number might, no doubt, be extended.

Lime (calx) is readily prepared by the calcination of coral.

Nitre (potassæ nitras), of which J. G. Sawkins remarks, it "is not found pure, so far as I can learn, on this group." (*Agricultural Report*, Vol. 1, No. 2.)

Sulphur, from about the crater of Kilanea.

Common Salt (sodii chloridum) is manufactured in considerable quantities from the ocean, and is also collected from the salt lake of *Alia-packai.* During the year ending June 30th, 1851, 5,332½ barrels of salt were exported. Mr. Sawkins remarks of the Island salt, that it is "rarely pure, on account of the sulphurous gases of the neighboring active volcanoes."

Glauber's Salt (sodæ sulphat.) is found at Kilanea, and has been occasionally used.

Sponges (spongia officinalis). They are, however, a very coarse, inferior article.

The Sorrel (rumex acetosa).

Arrow-root (tacca oceanica). From July 1st, 1850, to June 30th, 1851, inclusive, 16,780 pounds of prepared Arrow-root were exported. I extract the following from The United States Dispensatory:—"A variety of Arrow-root has been imported from the Sandwich Islands. It was supposed to be procured from the root of *Tacca pinnatifida*, which grows abundantly in Tahiti and other islands of the South Pacific; but Mr. Nuttall, during his visit to the Sandwich Islands, found that it was the product of another species of Tacco, which he describes under the name of Tacca oceanica. (*Am. Journal of Pharmacy*, ix., 305.) It is said that a similar product is obtained from Tacca pinnatifida, growing in the East India province of Arracan."

The Sugar Cane (saccharum) is by far the most important of the indigenous Materia Medica, in a commercial aspect. The manufactured *Sugar* which was exported, amounted in 1849 to 653,820 pounds, and in 1850 to 750,238 pounds. The exported *Molasses* (sacchari fæx) amounted in 1849 to 41,235 gallons, and in 1850 to 53,855 gallons.

A large number of the "Flora Medica" have been introduced since the discovery of the group. Quite a number of them are thoroughly naturalized; and some are already of great importance among the exports, though in every such instance the article is not only a medicine, but also a food. Without question, the Sandwich Islands will yet produce for export many of the Materia Medica proper. From the paucity of my facts, I can do little more than give a mere list of these introductions, and even this will be defective.

I will first mention the *unofficinal* articles.

Coffee (coffea arabica). This was first permanently introduced by Lord Byron in 1828. In 1849, 28,231 pounds of coffee were exported, and in 1850, 208,428 pounds. (Cheever's *Sandwich Islands.*) It is of an excellent quality.

Indigo (indigofera). In many parts of the Islands it now grows wild. From experiments made by the writer many years since, the Sandwich Islands indigo may be pronounced a good variety—probably quite as good, in its medicinal and economical and manufacturing properties, as any in the markets of the world.

The Touch-me-Not (impatiens noli-me-tangere) grows luxuriantly.

Onions (capa). They are greatly relished by the natives as a condiment, and are raised by them in considerable quantities. During the year ending June 30, 1851, 3,759 barrels were exported.

The Irish Potatoe (solanum tuberosum). Of these there were exported, in 1849, 858 barrels, and in 1850, 51,957 barrels.

Indian Corn, or *Maize* (zea mays) grows well; is not extensively raised. During the year ending June 30, 1851, five barrels were exported.

Indian Rubber, or *Caoutchouc* (syphonia cahuchu, or S. elastica). A very useful tree, which it is to be hoped will be rapidly multiplied on the Islands.

Rice (oriza sativa). As yet it is only raised experimentally, but it may become an important production.

The Pumpkin (cucurbita pepo). *The Muskmelon* (cucumis melo). *The Cucumber* (cucumis sativus).

Of *officinal* plants, the following imperfect list will serve our purpose of exhibiting the admirable adaptation of the soil and climate to the production of many choice articles, and of indicating how independent of other countries, as to their Materia Medica, these Islands may become.

The Castor Oil (ricinus communis). This may be said to be effectually naturalized. In many places it grows, becoming a perennial. As yet no considerable use is made of it. There may, however, come a time when Castor Oil shall be manufactured there, not only for home consumption, but for export from the Islands—a rival even to "the cold-drawn East India oil."

Mustard (sinapis) grows wild over considerable tracts. I am not aware that it is at all used, even as a condiment, though, no doubt, possessing requisite strength. Mustard is even imported for the tables of foreign residents.

The Pomegranate (punica granatum) has been brought to maturity on the Sandwich Islands, and is, no doubt, still cultivated by those of horticultural tastes. The rinds of the fruit (malecorium), and the flowers (balaustines), may yet be valued among the rural inhabitants for their astringent and tonic properties; though, if it be true, as before stated, that verminous affections are rare, the famed properties of the bark of the root may not be called into requisition.

The Stramonium (datura stramonium), introduced many years since, now propagates itself, and was, about Honolulu, the nuisance of my boyish days. This powerful narcotic, so identical in its effects with belladonna, though by no means to be employed as a popular remedy, may yet be made valuable to the Island practitioner.

Several members of the genus *Citrus—The Orange* (c. aurantium), *The Citron* (c. medica), *The Lemon* (c. limonium), *The Lime* (c. acris)—which are, I believe, all introduced, form an important group. The orange was first planted on the Islands by Capt. Vancouver, in 1792. As a fruit, they have already became quite an article of export. In 1849, 10,000 were exported, and in 1850, 139,500. I know not why the Sandwich Islands may not produce the much sought orange flower water (aurantii floris aqua), used both in the toilet chamber and the apothecary's shop; and if the flowers of the Seville or bitter orange (citrus vulgaris) be preferable, it can, no doubt, be added to the Island Flora. The oil, or neroli (aurantii oleum) will, no doubt, possess as fine a scent as that of France or Italy. Three hundred and four gallons of lime juice (limonus succus) were exported in the year ending June 30th, 1851.

Cotton (gossypium). This article, so useful in burns, grows well, and is of good quality. It has not become an article of export.

Wheat (triticum).

Oats (avena sativum). These two grains, officinal in the Pharmacopœia, and of such noted importance in other departments of civilized life, are every year becoming more important articles of culture for home consumption.

Coriander (coriandrum sativum). *Fennel* (feniculum vulgare). *Anise* (pimpinella anisum). *Horseradish* (cochlearia amoracia). *Cayenne Pepper* (capsicum). *Black Pepper* (piper nigrum). *Rhubarb* (rheum). *Lettuce* (lactuca sativa). *Sage* (salvia). *Carrots* (daucus carota). *The Broom* (cystisus scoparius). *Ginger* (zingiber). *Hops* (humulus lupulus). *Roses* (rosa galica). *Poppy* (papaver somnifera).

Aloes (aloe). I think I am correct in mentioning this, though as yet it is only cultivated for ornament.

The Tamarind (tamarindus Indica) has long been introduced, and is a very valuable tree for the tropic zone.

Tobacco (nicotiana tabaccum) has been long cultivated on the Islands, and promises to become a very important export.

Figs (ficus carica) are being more and more cultivated, and may become an important export.

The Grape (vitus virifera) grows well in some localities, and it is now a subject of active discussion and experiment, whether it may not be extensively cultivated. Should the anticipations of some be realized, the Hawaiian Islands are to become as noted for their wines as Portugal or Madeira.

Thus, to repeat Edmund Burke's witticism, the Sandwich Islands producers are aspiring to the rights of kings, viz.: to the "*jus de vinum.*" While the *Grapes* are cultivated for luxurious contributions to the table, and while the *Raisins* are dried for the home and foreign markets of future days, as medical men, we may "hope against hope," that *Hawaiian Wines*, with all their variety and excellence, shall be manufactured for the Materia Medica rather than for the Materia Alimentaria.

References.—I take pleasure in acknowledging my authorities:—*Journal of* TYERMAN & BENNET; *Polynesian Researches*, by ELLIS; JARVIS' *History of the Sandwich Islands; Narrative of the United States Exploring Expedition; Report of the Physicians of the Sandwich Islands Mission, in June*, 1839; *Meteorological Observations*, by T. C. B. ROOKE, Esq., *in Hawaiian Spectator*, Vols. I. and II.; *Meteorological Observations*, by Rev. E. JOHNSON; *American Journal of Science and Arts*, as copied in BINGHAM'S *Sandwich Islands;* Rev. A. BISHOP *on the Decrease of Population in the Sandwich Islands, Hawaiian Spectator*, Vol. I., p. 52; *Climate of the Sandwich Islands*, by G. P. JUDD, M. D., *Hawaiian Spectator*, Vol. I., No. 2; *Decrease of Population on the Hawaiian Islands*, by DAVID MALO, *Hawaiian Spectator*, Vol. II., p. 121; Rev. HENRY T. CHEEVER'S *Sandwich Islands;* Hon. R. C. WYLLIE'S *Notes on the Hawaiian Islands; Transactions of the Royal Hawaiian Agricultural Society*, Vol. I., Nos. 1 and 2.

In addition to the above works and essays, which have been directly quoted, the following may also be named as having lent more fullness and accuracy to my statements, regarding the climate and causes of depopulation:—DIBBLE'S *History of the Sandwich Islands;* BINGHAM'S *Sandwich Islands;* SIMPSON'S *Sandwich Islands*, and CHEEVER'S *Island World.* I am also indebted to Dr. CHAPIN'S publications and to his personal kindness in furnishing me facts not otherwise accessible:—No. 39 of *The American Journal of Medical Science*, as republished in the *Hawaiian Spectator*, Vol. I., p. 243; *Boston Medical and Surgical Journal*, Vol. XLII., Nos. 3 and 5;

Letters to the Writer, of January and February, 1850. These form an array of names one may be proud to mention, and they certainly demonstrate that my native Islands are as favorable for the development of mental as of physical health and vigor. Nor is there any rashness in affirming, that the "literary capabilities" of the Hawaiian Islands have not yet been fully developed—a fact most gratifying to every Hawaiian.

ART. II.—*Examination of the Rumex Crispus, or Yellow Dock.*

By J. H. SALISBURY, M. D., New York.

General remarks.—This species belongs to an extensive family of plants, familiarly known as sorrel and dock, inhabiting Europe, the temperate parts of Africa, and the United States. Several plants of this species have acid leaves, owing to the presence mainly of oxalic acid. Those, as a general rule, which have the most of this acid, are distinguished by the commoner name of sorrel; some of which are highly esteemed in many places, as culinary vegetables. They are cooling, and somewhat diuretic, and are not considered injurious, unless too freely and frequently eaten. A small portion of oxalic acid is found in many of those known by the common name of *dock;* but in these it is principally in the petioles and stalks, instead of the leaves. Tannic acid is found in the roots and seeds of many of the species, and it is to this acid that they owe their astringency.

The Rumex Crispus, which is the subject of this essay, is considered by most authorities as a native of Europe, having been introduced into the United States. Griffith, however, in his medical botany, says it is a native of this country. It is very common, inhabiting not only waste places, but often, to the great annoyance of the farmer, taking possession of and literally overrunning his best fields. When it has once thoroughly obtained a foothold, it is not easy to eradicate it. It is very tenacious of life, and will often take root and grow, after having been exposed for several days to the direct rays of the sun.

Description and composition.—The flowers are numerous, in a large panicle of axillary racemes, made up of half whorls, spirally arranged. Calyx, 6 parted, the three outside sepels are connected at their base, short, rugose, filiform, alternating with the three inside ones which envelope the seed, and which are much larger than the outer ones, and irregularly denticulated on their margins. One of these has a large tubercle on its back, filled with a starchy, astringent substance, like the seed; the others have an imperfect tubercle. The seeds are astringent like the root, but less bitter, containing considerable tonic acid.

100 grains of the seed, pedicels and calyces, taken when the seeds were in the milk, gave, of

Water,	77·060
Dry matter	22·940
Ash,	·760
Organic matter,	22·180
Organic matter, calculated dry	96·687
Ash, calculated dry	3·313

100 grains of the ash gave the following results:—

Carbonic acid,			15·660
Silicic acid			3·000
Phosphates and Silicates,....	26·40	Phosphate of iron,	·800
		Lime	4·838
		Magnesia	·760
		Silicic acid,	·050
		Phosphoric acid,	19·952
Lime			4·558
Magnesia,			3·120
Potash,			16·309
Soda,			17·495
Sodium			4·206
Chlorine,			6·414
Sulphuric acid,			·532
			98·694

In the vicinity of New York, this plant flowers in June' and the seed ripens the last of July and the first of August'

The leaves have a slightly bitter, pungent, astringent taste, with an odor, when bruised, of sorrel. They contain a small amount of tannic and oxalic acids. They are lanceolate, acute, slightly waved, particularly along the margins, radical ones large, having very long petioles.

Organic analysis of the fresh leaves.

100 grains of fresh leaf-blades gave, of

Starch,	none.
Chlorophylle, wax and resinous matter,	·755
Albumen,	·030
Caseine,	·200
Dextrine or gum,	·920
Extractive matter, very bitter, slightly astringent, odor somewhat like that of tobacco, nauseating,	4·270
Fibre, or lignin,	9·985
Per cent. ash in fibre, 8·053, strongly alkaline.	
Total dry matter,	16·160
Water,	85·520

The above calculated dry.

Starch,	none
Chlorophylle, wax and resinous matter,	4·680
Albumen,	·185
Caseine,	1·238
Dextrine,	5·693
Extractive matter,	26·424
Fibre or lignin,	61·789
	100·000

The petioles are quite sour, with free oxalic acid. 100 grs. of the fresh leaves gave, of

Water,	94·660
Dry matter,	5·340
Ash, strongly alkaline,	1·030
Organic matter,	4·310
Ash, calculated dry,	19·288
Organic matter, calculated dry	80·712

100 grs. of fresh leaf-blades gave, of

Water,	85·700
Dry matter,	14·300
Ash, very saline,	2·180

Organic matter,	12·120
Ash, calculated dry,	15·245
Organic matter, calculated dry,	84·755

100 grs. of the ash of the leaf-blades and petioles gave the following:—

Carbonic acid,			15·400
Silicic acid,			3·900
Phosphates and Silicates,	24·00	Lime,	·020
		Silicic acid,	·050
		Magnesia, peroxide of iron and phosphoric acid,	23·830
Lime,			1·633
Magnesia,			·880
Potash,			15·613
Soda,			26·880
Sodium,			3·889
Chlorine,			5·920
Sulphuric acid,			1·477
			99·492

100 grs. of fresh petioles gave, of oxalic acid, ·8363 of a grain—being almost one per cent. of acid.

Stalks from 18 to 42 inches high, woody, smooth at base, but becoming striated as you ascend. Slightly acid.

100 grs. of the ash of the stalk gave, of

Carbonic acid,			14·800
Silicic acid,			2·800
Phosphates,	21·70	Silicic acid,	·050
		Lime,	4·953
		Magnesia,	·850
		Phosphate of iron,	1·100
		Phosphoric acid,	14·747
Lime,			2·590
Magnesia,			2·040
Potash,			17·490
Soda,			22·753
Sodium,			3·368
Chlorine,			5·130
Sulphuric acid,			5·085
			99·696

100 grs. of fresh stalks gave, of

Water,	83·800
Dry matter,	16·200

Ash,	1·480
Organic matter,	14·720
Ash, calculated dry,	9·512
Organic matter, calculated dry,	90·488

Root perennial, fusiform, yellow, having from three to four rows of rootlets extending its whole length, slightly spiral in their course, covered with a loose epidermis, easily separated, and having but little taste. Inside of root less farinaceous than outside, and containing less of the pungent, bitter, astringent principle. Main root not as active as the small divisions. It consists of four distinct parts,—the medulla (or pith), the woody portion, the cortical layer, and the epidermis. The pith is a light, spongy mass of cellular tissue (in very old roots it becomes woody), and is often nearly tasteless. 100 grs. of pith gave, of

Water,	78·225
Dry matter,	21·775
Ash,	1·747
Organic matter,	20·028
Ash, calculated dry,	8·028
Organic matter, calculated dry,	91·976

The woody part is fibrous and tough, and contains less of the active principles than the cortical layers. It contains in 100 parts:—

Water,	72·779
Dry matter,	27·221
Ash,	1·139
Organic matter,	26·082
Ash, calculated dry,	4·184
Organic matter, calculated dry,	95·816

The cortical layer is easily separated from the woody portion, adhering to it firmly only in the line of the rootlets, and is fleshy and tender, and contains more of the active principle than any other part of the plant. 100 grs. of this layer, with the epidermis attached, gave, of

Water,	70·809
Dry matter,	29·191
Ash,	1·398
Organic matter,	27·793
Ash, calculated dry,	4·789
Organic matter, calculated dry,	95·211

The epidermis is loose and thin, and easily separated. Numerous medullary rays extend from the pith into the cortical layer.

Organic analysis of a Root three-quarters of an inch in diameter and ten inches in length.

100 grs. gave the following results:—

Starch,	5·987
Albumen,	1·431
Caseine,	·226
Dextrine, or gum,	2·024
Extractive matter, (this contains a trace of oxalic acid and considerable tannic, very bitter and astringent,)	5·184
Fibre, or lignin,	14·228
Per cent. ash in fibre, 1·998—strongly alkaline.	
Total dry matter,	29·080
Water,	70·320
	100·000

The above, calculated dry:—

Starch,	20·600
Albumen,	4·982
Caseine,	·777
Dextrine, or gum,	6·690
Extractive matter, oxalic and tannic acids,	17·856
Fibre, or lignin,	49·095
	100·000

100 grs. of the root of another plant gave, of

Water,	79·363
Dry matter,	20·637
Ash,	1·321
Organic matter,	19·316
Ash, calculated dry,	6·401
Organic matter, calculated dry,	93·599

100 grs. of the ash gave the following results:—

Carbonic acid,		16·000
Silicic acid,		·500
Phosphates, 26·20,	Silicic acid,	·060
	Lime,	4·220
	Magnesia,	4·250
	Phosphate of iron,	·400
	Phosphoric acid,	17·380

Lime,	3·827
Magnesia,	7·620
Potash,	14·723
Soda,	22·480
Sulphuric acid,	4·502
Chlorine,	3·898
	99·860

In an agricultural light, this may be considered as a very exhausting plant to the soil, as the analysis will show, if removed every year from it. The ash of all parts of the plant is made up principally of phosphates and alkalies, with considerable chlorine. The root and stalk contain a respectable quantity of sulphuric acid, while the leaf-blades, seeds, pedicels, and petioles, contain but little. The root is rich in magnesia, while but a moderate quantity is found in other parts. About one-fifth of the dry matter of the root is starch. Calling the extractive matter a nitrogenous body, from 30 to 40 per cent. of the dry matter of the whole plant consists of nitrogenous compounds. Excluding this amorphous body, from 12 to 17 per cent. is nitrogenous.

Comparative view of the Water, Inorganic and Organic Matter of different parts of the Plant, with the Ratio of the Parts; Plant taken when the seeds were in their Milk.

Parts of Plant.	Fresh Plant.				Same Plant deprived of Water.	
	Ratio of parts.	Water.	Inorganic Matter.	Organic Matter.	Inorganic Matter.	Organic Matter.
Petioles	14·409	94·66	1·03	4·31	19·288	80·712
Leaf-blades	34·552	85·70	2·18	12·12	15·245	84·755
Stalks	25·649	83·80	1·48	14·72	9·512	90·488
Root	17·291	79·363	1·321	19·316	6·401	93·599
Seeds, pedicels, and calyces	8·069	77·060	·760	22·180	3·313	96·687
Medulla of root	6·40	78·225	1·747	20·028	8·024	91·976
Cortical layer & epidermis of root	52·00	70·809	1·398	27·793	4·789	95·211
Woody portions of root	41·60	72·779	1·139	26·082	4·184	95·816

In the plant deprived of water: at this stage of its growth, the petioles stand first in the amount of inorganic matter, the leaf-blades second, the stalks third, the roots fourth, and the seeds, pedicels, and calyces contain the smallest proportion. In the fresh plant, the proportion of inorganic matter is greater in the leaf-blades, stalk, and root, than in the petioles. It will be seen that, in the root, the pith contains nearly twice as much ash as either of the other parts; the cortical layer stands next, and the woody portion has the least. The woody layer, into which the rootlets discharge themselves, is filled with large ducts, arranged between the medullary rays for transmitting the juices of the plant.

The petioles contain, besides about one per cent. of oxalic acid, a small amount of tartaric and tannic acids; the root has a slight quantity of acetic, tartaric, and gallic acids, with considerable tannic acid. The tannic is that variety which gives with the salts of the peroxide of iron a greenish color.

There is a crystalline principle, in small quantity, in the root, which conducts itself somewhat like gallic acid. I have not yet examined it sufficiently to satisfy myself whether it is this or some other body. It shows itself in small acicular crystals, taking often a stellated arrangement. They are readily soluble in water, less readily soluble in absolute alcohol, and sparingly soluble in ether. They are found in the water and spirit extracts, from which they can be separated in a tolerably pure state by sulphuric ether, which slowly dissolves the crystals without taking up much of the amorphous extractive matter. The crystals dissolve in sulphuric acid, and the solution, raised to a temperature of 200°, is changed to a light amber color. The examination of this body will be resumed at the earliest opportunity.

Riegel found in the root of the Rumex obtusifolius a peculiar principle, which he called *rumicin*, and which bears a close resemblance to *rhabarbarin*, one of the active principles of rhubarb. The crystals observed in the R. crispus may be identical with the rumicin of the R. obtusifolius.

The root also contains a small amount of sugar and a slight quantity of an oily resinous body.

Uses and Medical Properties.—The leaves are sometimes eaten for greens. They are somewhat laxative, and form an excellent diet in scorbutic complaints. The roots contain a yellow dye, and are said to be sometimes used in coloring. The dye, on exposure to the atmosphere for some time, changes into reddish yellow color.

Though its species is not officinal, yet it has enjoyed, at different times, considerable reputation as a medicine. Its medical properties are those of an astringent and a mild tonic. In this respect it has some resemblance to rhubarb. It is supposed to possess an alterative property, and has been employed in decoction and ointment in scorbutic disorders and cutaneous eruptions, and has attracted some attention in the treatment of itch.

The powdered root has been recommended as a dentifrice in cases of spongy gums. Recently it has been employed quite extensively in syrups and patent medicines.

It yields its active properties to water and alcohol. The infusion or decoction is of a light yellow, and the tincture of a dark yellow color, (the latter takes up nearly all the coloring matter,) with an odor of the root and an excessively pungent bitter taste. It requires several fresh additions of water or alcohol, before the active properties can all be abstracted. The residue, after suffering maceration, is inodorous, and almost tasteless. In several trials of this kind, it was found necessary to add water or alcohol four or five times, keeping the whole, after each addition, briskly boiling for ten or fifteen minutes, before the bitter astringent principles could be all taken up.

On subjecting the green root to a temperature of 212°, in a partly-closed vessel, it turns to a dark brown color, and gives off a very strong pungent odor like that of the root. The same odor, but less intense, is given off from it when boiled in water or alcohol. By long-continued boiling, the pungent bitter properties become greatly diminished, in consequence of their volatility. They can be distilled over with water, giving to that liquid the odor of the root, and a light yellow color. A yellowish gummy mass remains on evaporating at a low temperature, which I have not had time to examine further. The medicinal virtues of the root, probably, depend in a great measure upon the volatile matter; if so, subjecting it to protracted heat, in any way, must tend to diminish its activity as a medicine.

I have not yet succeeded in obtaining an extract as bitter as the decoction at the commencement of the evaporation. The bitter principles seem to escape during the evaporation of the liquid, leaving a residue which is less bitter than the solution started with, but more nauseating. The examination of this plant will be continued.

ART. III.—*Perineal Section for Stricture of the Urethra.* By FREDERICK D. LENTE, M. D., Surgeon to the West Point Foundry.

FOR some time past, the question as to the appropriate treatment of the different varieties of stricture of the urethra has been much discussed by the British surgeons, and no small amount of acrimony has occasionally been exhibited by more than one distinguished surgeon in the advocacy of his favorite practice. But, in reading, in the January number of the London *Lancet* (American edition), the reports of some cases occurring in King's College Hospital, and the clinical remarks thereupon, we were much surprised at the fact, made apparent in those remarks, of the great infrequency of the operation of the perineal section in the metropolitan hospitals, and of the entire rejection of that operation, as impracticable, in those cases of stricture where no instrument can be passed into the bladder as a guide.

It is well known that Mr. Syme, of Edinburgh, never performs the operation which has—though, in our opinion, for very insufficient reasons—obtained his name, without first introducing a guide *into the bladder*, which he insists can *always* be done, there being, in his opinion, no such thing as an *impermeable* stricture. Mr. Fergusson, in remarking upon the hospital cases above alluded to, asks:—"Can the same operation (perineal section) be performed when no instrument will pass?" We are surprised, we say, at this, for the reason that the perineal section, both with and without a guide passed *through* the stricture, has been by no means an uncommon operation in New York city for years past, reports of its successful performance, both in hospital and private practice, having been repeatedly published in the various journals and in the proceedings of medical societies. The surgeons of the New York Hospital were in the habit of performing it at least twenty years ago.

For distinguished British surgeons thus to pass over in silence these important achievements of American surgery, is to manifest either an inexcusable ignorance of foreign periodical literature, or an equally inexcusable prejudice, or a want of confidence in the reports of their transatlantic brethren. It is not the purpose of this communication to seek to enlighten our American readers on the subject, who are most of them, no doubt, familiar, or ought to be, with the merits of an operation now so well established among us; but we hope that, by some chance, it may find its way to the eyes of those on the other side of the Atlantic who appear to be less fortunate. In the *Transactions of the American Medical Association*, 4th vol., 1851, and included at p. 330, in an article furnished by the author of this paper, entitled, "*Surgical Statistics of the New York Hospital*," is a table embracing twenty-seven cases of this operation, which we take the liberty of incorporating into this article. Many of these cases occurred during our connection with the Hospital, from 1847 to 1851; and besides these, we have assisted at several private operations of the same character. Most of the latter were performed by Prof. A. C. Post, formerly surgeon to the New York Hospital, who has had an unusual number of these cases. Some of these were of the most unfavorable nature, abscesses, fistulas, broken-down constitution, complicating them. In one case, the patient was quite an aged man, the stricture being the result of an injury, and yet, in only one instance, during our connection with him as pupil and assistant, did a fatal result occur;

and this was the case of a hospital patient, a man of very dissipated habits, with a constitution completely shattered, in consequence, and with abscesses and *fistulæ in perineo.* (Case 22d of the Table.) We subjoin the following extract from a letter recently received from Dr. Post, for which liberty we must beg his indulgence, as it was written in haste, and intended only for our private information, and not for publication here:—"In private practice, I have performed the operation in two old cases of stricture, in which retention of urine had occurred, and in which life was in imminent danger. In both of these cases, the general health had long been seriously impaired, in consequence of the obstruction to the free evacuation of the bladder. In both, a complete and radical cure was effected, the patients having enjoyed excellent health for a number of years afterwards. There is a gentleman of my acquaintance now in this city, on whom a similiar operation was performed by Dr. Cheesman about ten years ago, with like success. I am also familiar with a case in which Dr. Buck operated, a number of years ago, in which a satisfactory result was obtained. Several years ago, I performed the operation on a gentleman from Long Island, who had injured his perineum by falling across a fence. About a week after the injury, entire retention of urine having occurred, and the stricture being so close that I could not pass any instrument through it, I performed the perineal section with complete success, and the patient continues to enjoy good health." In one of Dr. Post's private cases, mentioned by him, a fatal result occurred: in this also, the stricture and subsequent retention were the result of a fall across a fence. The patient was a boy fourteen years old; the perineal section was successful, but subsequent difficulties which arose, and under which the patient suffered for more than a year, caused his death.

We allude to the almost uniform success of this operation in our country, as far as our knowledge of it extends, because, in a report of several cases at King's College Hospital, in the January number of the *Lancet*, it is remarked that, by many surgeons, it is regarded as a very fatal operation, Mr. Syme, on the contrary, having had great success. Mr. Lee, who has recently performed the perineal section without a guide passed *through* the stricture (the first instance in London, it would seem), asks, in a clinical lecture on the subject:—"How are we to account for such different results in the practice of various surgeons of equal skill?" And he answers by saying that, in his opinion, it is owing to the fact that all the strictures, upon which Mr. Syme has operated, have been situated "*anterior to the membranous part of the urethra*," and that therefore he did not wound the deep perineal fascia. Now, in most cases of bad stricture, according to our experience, the obstruction has existed *in* the membranous part of the canal; sometimes there have been two strictures in this portion. In almost all the cases included in the table, the stricture existed in this part of the urethra.

The operation of external division without a guide is looked upon, in the New York Hospital, as so practicable and so successful, though certainly, at times, one of the most annoying and difficult of operations, that, in the cases of obstinate retention of urine admitted into the institution during our connection with it, where the introduction of any instrument was found to be absolutely impracticable, the practice of puncturing the bladder was never once resorted to, but relief was always attempted by the perineal incision. In the London hospitals, on the contrary, it would seem that the operation of puncture is generally preferred. Mr. Hilton, surgeon to Guy's Hospital, says that twenty or thirty such cases have occurred there during the past few years, and reports three cases himself in one number of the *Lancet;* in one of which, the catheter having slipped from the opening (into the rectum), the operation was necessarily repeated *de novo* on the succeeding day: all of these three operations were successful. The operative procedure, in cases where the obstruction is impassable, is briefly this. The patient having been secured in the usual position, a medium-sized catheter or sound is passed down to the stricture and kept in position by an assistant; the incision is then carried down in the median line to the end of the instrument, which is thus exposed; it is then continued downwards towards the posterior end of the stricture (which is usually of some length), and the anterior point of that part of the membranous portion, still unobstructed, and generally *distended* with urine, diligently sought for. This constitutes the only difficult part of the operation, and may occupy from five minutes to an hour or more; generally, from five to fifteen minutes, however, have sufficed to discover it. As soon as a fluctuating point is perceived, either by the touch or by an experimental incision in the proper direction, an opening is made with a sharp-pointed bistoury, a director introduced, and then the end of the instrument previously introduced through the distal portion of the urethra. It has been the usual custom to retain a *silver* instrument in the canal, secured by an appropriate bandage, as being the most cleanly. This is removed from time to time, and cleaned. In some cases, when the knife or director has been inadvertently removed from the posterior part of the divided urethra, after all the urine has been evacuated, and before the catheter has been passed into the bladder, it has been extremely difficult to find the opening again, and thus to complete the last step of the operation; especially in cases where the anatomical relations of the parts have been disturbed by the existence of abscesses and fistulous canals.

Regarding the question, so much mooted on the other side of the Atlantic, as to the possibility of passing an instrument in *every* case of stricture, we have only to say for ourselves, on this side, that, in many cases, our best surgeons, after the most persevering and gentle trials with all kinds of instruments, are sometimes completely foiled, and these are the cases to which the operation under discussion has been applied. Most, if not all of the cases contained in the Table were of this character, and all of those which are mentioned as having occurred in private practice, with, perhaps, one exception, this having been complicated by large abscesses, and by fistulas. We are convinced of the fact which Mr. Fergusson says he has long had the idea of— "that the seeming dexterity (in passing instruments in these impermeable strictures) was nothing but actual violence;" and that surgeons "appear to pass the instrument easily into the bladder, whilst they are *really forcing* their way through a canal, the relative anatomy of which is very familiar to them." We may, in this connection, remark that, in the practice of the New York Hospital, when even the smallest-sized conical instrument can be introduced, the idea of dividing the perineum, as a means of cure, is not entertained, but a cure by gradual dilatation, with graduated instruments, is confidently expected: we remember no instance of a different result. This being the case, the first step in the operation, as performed by the great Scotch surgeon and by the surgeons of the London hospitals generally, is an argument against the propriety or necessity of any cutting operation whatever; for, why should a patient be subjected to so severe a procedure as the perineal section, when the passage of the guide through the stricture may be followed by larger instruments, and the canal thus enlarged to its normal dimensions? In cases complicated by abscess or by extensive fistulas, it may be, and is often, necessary to perform the cutting operation, even though a small instrument can be introduced. In a case which we have recently had under treatment, and which we may be permitted to introduce here as an exemplification, it was only after repeated trials, even with the important aid of an anesthetic, and with considerable difficulty, that we could introduce an instrument, and then only one of the fine-pointed, flexible bougies manufactured by the French, and so admirably adapted to these cases, its diameter, at its largest part, being only one-half that of silver catheter No. 1, and yet, in the course of three or four weeks, by careful and gradual dilatation, the urethra was enlarged to the size of No. 10.

The following is the table referred to in the preceding pages:—

No.	Age.	Duration.	Date of operation.	Date of discharge.	Result.	Cause of death.
1	33	4 years.	Jan. 9.	July 13.	Cured.	
2	27	3 years.	Nov. 22.	Feb. 1.	Cured.	
3	51	5 years.	Oct. 24.	Jan. 8.	Much rel'd.	
4	26	Over 4 years.	April 21.	July 1.	Relieved.	
5	29	Several years.	Sept. 6.	Dec. 4.	Cured.	
6	52	10 years.	Sept. 7.	Oct. 17.	Cured.	
7	48		July 8.	July 17.	Died.	Peritonitis.
8	14		Nov. 20.	Jan. 13.	Cured.	
9	30	5 years.	Dec. 15.	Feb. 27.	Cured.	
10	25	12 years.	Aug. 31.	Jan. 6.	Cured.	
11	43	3 years.	Dec. 14.	Feb. 3.	Cured.	
12	50		Jan. 31.	June 16.	Cured.	
13	55	8 years.	July 17.	Aug. 23.	Cured.	
14	56	18 years.	March 9.	May 22.	Much rel'd	
15			Aug. 4.	Aug. 17.	Relieved.	
16	40		Dec. 31.	July 25.	Cured.	
17	20		June 15.	Aug. 28.	Cured.	
18	31	5 years.	April 23.	Oct. 16.	Relieved.	
19	35		March 17.	May 5.	Cured.	
20	63	20 years.	June 27.	July 24.	Cured.	
21	38	7 years.	Nov. 30.	Dec. 28.	Cured.	
22	31	7 years.	May 19.	June 14.	Died.	Exten'e suppuration.
23	48		Feb 24.	July 16.	Cured.	
24	49	4 years.	Oct. 17.	July 17.	Relieved.	
25	13	1 year.	Oct. 13.	March 8.	Cured.	
26	29	4 years.	May 8.	May 8.	Died.	Coma.
27	23		Aug. 9.	Oct. 6.	Cured.	

In Cases 10, 11, and 15, the operation of *internal* division was performed; Case 23, was a pseudo-lithotomy operation, for removing portions of a gutta-percha bougie; all the others were cases of external division, in the manner described in the preceding pages of this paper. Case 1 was complicated by extensive abscess and fistulous openings in the perineum; Case 3, by "fistulous openings;" Case 4, by "infiltration of urine, and sloughing of scrotum before operation—patient refused to undergo a further operation;" Case 5, by "*fistulæ in perineo;*" Case 8 resulted from a "wound of perineum;" Case 10 resulted from "injury of perineum;" Cases 16, 17, 18, and 19, resulted from "injury of perineum;" in Case 22, patient had a broken constitution, and "extensive abscesses had formed previous to operation;" Case 27 resulted from injury of perineum. The other cases resulted from the usual cause. Of the number, *three died*, two *were much relieved*, four were relieved, and *eighteen were cured.* "In some of the cases which were discharged as *relieved*, a further operation might have resulted in *cure*, but the patients were unwilling to submit to it," being contented with the alleviation of their sufferings already afforded. In many instances in which the operation was performed, it was under very unfavorable circumstances, as will be seen by a glance at the table. In seventeen cases, in which the duration of the existence of the stricture, previous to the operation, is mentioned, the average is *seven years.* "In most, if not all of the cases, the operation was regarded as the only means of effecting a cure, all other means having failed; and, in many instances, it was necessary, not only for the purpose of rendering the patient's life more comfortable, but for saving it. The proportion of cutting operations for stricture, to the number treated by *dilatation*, is very small in the New York Hospital."

We look upon it as a matter of the greatest importance, to establish the feasibility and comparative safety of the perineal section, and especially as performed *without a guide*, for in most, if not all cases requiring the operation, surgeons find it impracticable to introduce any guide, although one of small size may, perhaps, usually be *forced* through by one well acquainted with the course of the canal and its relations, but in no case, we think, without danger of making false passages, and thus materially increasing the danger, and diminishing the chances of a perfect cure from the subsequent operation. The cases included in our Table, and those performed in private practice in the city, with like results, will, in our opinion, go far towards increasing the confidence of surgeons in this operation.

Mr. Lee, of King's College Hospital, in his lecture previously alluded to, looks upon the wound of the *deep perineal fascia*, necessarily made in this operation where the obstruction is in the membranous portion, as "fatal to its general success," from the danger of extravasation of urine behind the fascia, and consequent inflammation with its *sequelæ.* We can only say that the results of the operations performed here, and generally alluded to in this paper, although they do not remove the apprehension of this danger entirely, yet indicate that it is of so infrequent occurrence as scarcely to be taken into consideration, when the stricture is of such a character as to call imperatively for operative interference. The safeguard against this occurence lies, we conceive, is this,—the stricture, not having been *forced*, as in cases where it is thought requisite to pass an instrument into the bladder as a guide, the parts contiguous to it are not irritated or wounded by the violence necessarily used, and by the wrong direction which, to some extent, the point must inevitably take, especially when the stricture is of some length, and therefore the opening is not so likely to close up against the free passage of the urine, or to take an inflammatory action; again, this opening into the membranous portion is so free in its communication with the external wound, that nothing hinders the easy egress of urine from the bladder, which, finding a far more easy access through it than through the cellular tissue behind the fascia, will almost invariably take the former course, and infiltration thus be rendered, *in ordinary circumstances*, almost impossible. To insure a certain and complete passage of the urine in this direction, it is the custom of some surgeons to retain a very large-sized female catheter, No. 14 or 15, in the wound for some days, and not to introduce an instrument immediately from the distal portion of the canal.

We trust that cases alluded to, and the facts adduced in this communication, will be considered as establishing the two points so much doubted by the English surgeons. First, that the perineal section for stricture, whether it be in the bulbous or membranous portion, is a comparatively safe operation; safer than most surgical operations of equal importance. Secondly, that a skillful surgeon will almost always succeed, even in cases where no instrument of any kind can be passed into the bladder, and, consequently, when he has to cut for the posterior extremity of the stricture, with no other guide than his anatomical acquaintance with the relation of the parts.

Since the foregoing was written, we have met, in a recent publication, with a second instance of external division for the cure of impermeable stricture, without a guide, by an English surgeon, and with success. Also with an account of a "new method of urethrotomy for the cure of stricture," by M. Maisonneuve, Hôpital Cochin, Paris, who precedes his description of the operation with the remark that the other cutting operations are "usually so delicate and complex, and, above all, the accidents they may involve are so numerous and so serious, that the most experienced practitioners hesitate to adopt them." Before proceeding to the performance of the operation, he enjoins the following "preliminaries." "Before performing the operation by my method, the surgeon should gradually bring the urethra to a degree of dilatation sufficient to admit of the urethrotome being easily introduced. He ought especially to accustom the canal to the contact of instruments, in order to avoid the febrile attacks, which, in this region, so frequently complicate even the most simple operations. To this end the patient should, during at least a fortnight, be subjected to progressive dilatation by means of elastic bougies. He should also be kept on light diet, have frequent baths, emollient lavements, and cooling drinks."

"This preliminary treatment is not, however, intended merely to accustom the canal to the contact of instruments, and to obtain the amount of dilatation necessary to the introduction of the urethrotome. It is also useful by enabling the surgeon to introduce exploring instruments, and so to ascertain exactly the number of the strictures, their position, extent, degree of resistance, etc." "All these objects having been accomplished, the operation may be proceeded with." The patient having been properly secured, M. Maisonneuve goes on to say:—"The surgeon introduces the urethrotome, as he would an ordinary catheter, to three centimetres *beyond the last stricture.*" A concealed knife is then thrust out, and the stricture divided, the instrument being arranged in such a manner as also to dilate the stricture, to some extent, at the same time.

Now, we would simply ask, why, after having accomplished "all these objects," the not least important of which being the complete permeation of "all the strictures," and that by no very small instrument, it would seem,—why any further operative procedure should be considered necessary? Why not go on dilating with graduated sounds, and thus effect a cure, as can be done in almost all cases, without subjecting the patient to a severe cutting operation? For, an operation, simple as its inventor would have us believe it is, may be called severe, when it has, even occasionally, such sequences as he himself describes—"engorgement of the testicle," "abscess in the perineum," and "urethral fever." Besides, the operation, even after the cutting is accomplished, is not finished, but requires five or six weeks of "extremely prudent catheterism" to complete the cure; and, again, what is to become of those urgent cases of complete retention which call for immediate relief, if a preliminary course of treatment, occupying "at least a fortnight," is absolutely requisite to the complete success of this new method? The same remarks in part apply to M. Reybard's method, recently introduced to the public. In this, also, the instrument must first be introduced *through the stricture* and to some distance beyond it, which is then incised from behind forwards. If our position be correct, that almost every stricture, however callous, may be dilated to the natural size of the urethra and maintained so, by the careful use of graduated bougies, without incurring any risk whatever to the patient, or putting him to any considerable pain or inconvenience—and the scores of cases so treated in the New York Hospital for the last twenty years fully attest its correctness—then neither of those new methods is applicable to any case of stricture, for, wherever *they* are applicable, the method by dilatation is equally so. They are scarcely to be preferred to the method gravely advised by a surgeon of this country some years ago—of cutting into the bladder above the pubes, and passing a conical instrument through the stricture from behind forwards, when the introduction in the opposite direction was found to be impracticable.

ART. IV.—*Remarks on Occlusion of the Uterus, with a case.* By A. WILLARD, M. D., Greene, N. Y.

CASE.—On the 27th of June, 1852, I was requested by a young gentleman, who had the case in charge, to see a young woman in labor with her first child. It was nearly sunrise when I first saw her, and I was informed she had been suffering parturient pains during the whole night, and part of the preceding day—that towards morning the pains had become so exceedingly severe, that rupture of the uterus was feared—that the fœtal head was low down in the pelvis, but that for some hours no progress had been made in the labor, and that no os uteri had, as yet, been discovered.

On examination, the head was found filling the pelvic cavity, almost pressing on the perineum, and seemingly covered with a delicate, smooth membrane, which, at the first touch, might have been readily enough mistaken for "the membranes;" but, as it terminated all around its circumference in the vaginal wall, it was, of course, evident that it was, in fact, the distended uterus, drawn tensely over the advancing head of the child, but no delicacy of touch could detect any thing like the remains of a cervix uteri, or an os tincæ. Still it was quite reasonable to suppose that these two very important anatomical localities had existed somewhere about the apparatus feminea of this patient, and the evidence of the *present* existence of the os tincæ, at least, was, on the whole, quite convincing and undeniable, inasmuch as there was a constant dribbling of liquor amnii, which was readily distinguishable by its peculiar odor. After much search, a very slight dimple was found high up on the posterior surface of the presenting part, feeling very much as the impression of a common-sized shot on the smooth membrane might be supposed to feel; or, rather, it was a minute spot, feeling rather softer than the rest of the membrane. This point was explored with a small-sized elastic catheter, which it was found could, without any special difficulty, be passed through it into the cavity of the uterus. There was no extra heat or irritation about the vagina—the parts were soft and dilatable—the portion of the uterus covering the head of the child had no feeling of rigidity about it—even the os uteri itself had the same pliable feeling, but seemed obstinately disposed to resist all natural attempts at dilatation. The pains, indeed, were severe, and although the uterus seemed in full action, and was rendered tense and hard at each successive contraction, still there was no progress made in the labor.

Shortly after sunrise, the severity of the pains began to subside, and as there was no impaction of the head, and no obstruction of the natural passages, it was concluded to wait patiently the efforts of nature. It was, indeed, thought that no other proper course could be taken, for, in addition to the favorable state of the parts concerned, the woman was of a hardy race, inured to labor, in perfect health and full strength, and, as yet, there had not been enough of fatigue to render the nervous system irritable to any great degree. With a slight anodyne, therefore, the case was, for the present, left to itself.

The patient remained tolerably quiet, with only an occasional uncomfortable feeling, till the following night, when the pains recurred with a good deal of severity, and with perfect regularity. Thus the labor continued, with a variable degree of intensity, until Saturday, July 5th, the pains sometimes being so extremely severe as almost to threaten a rupture of the uterus; at others, so light as to be scarcely noticeable, and sometimes, for a few hours, entirely subsiding, enabling the woman to recruit her energies, and recover from the fatigue of so much exertion. During all this long series of days and nights, and with all this amount of pain, no perceptible effect had been produced on the obstinately contracted os uteri; but on this day (Saturday) the uterine contractions seemed to become more constant, and to have less disposition to subside. In the afternoon a slight increase in the diameter of the os uteri was perceived, which continued to augment very gradually, but constantly, till nearly Sunday morning, when a perfectly healthy female child was born, almost ten days after the actual commencement of the labor. The mother was able to be up and about the house in a week or ten days.

There may, perhaps, be nothing in this case which is particularly uncommon, or decidedly interesting; still it may serve as a point from which certain deductions may be drawn, possibly not entirely unimportant to the practitioner.

No one, it is presumed, will doubt that this was decidedly a case of lingering and protracted labor; but the causes which produced this state are not quite so apparent as the fact itself. One cause may undoubtedly be looked for in the dribbling away of the liquor amnii; but a still more important one is, doubtless, to be found in the misplaced os uteri, a consequence, we apprehend, of inequality of action in the uterine fibres. Irregularity of uterine action is ordinarily classed among the causes of protracted labors, but writers on the subject do not explain very satisfactorily, to our understanding, in what this irregularity consists.

In order to understand the irregular action of the uterus, it is first necessary for us to understand its regular action.

Some of the older writers on the subject consider that the contractions of the uterus, during labor, mechanically stretch the os uteri, by pressing the membranes and the presenting part of the fœtus down upon it; but says Rigby,* this is not the way, "it dilates in consequence of the circular fibres being no longer able to maintain that state of contraction which they had preserved during pregnancy; they are overpowered by the longitudinal fibres of the uterus, which by their contractions pull open the os uteri equally in every direction." All this we deem, with all due deference, to be "an odds without any difference," for, whether the os uteri be *stretched open*, or *pulled open*, it is pretty evident that the contents of the womb must be pressed upon the os uteri in the one case, to serve as a *stretcher* for it, and in the other as a sort of fulcrum or fixed point over which it is *to be stretched*. It is needless to quote authority, to show that the parturient action of the uterus is considered to consist in a series of contractions, whereby, in due time, its contents are expelled.

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* *System of Midwifery.* Phila. Ed., 1841, p. 158.

We imagine, however, that the *true* parturient action of the uterus is compound in its character; that it consists in the consentaneous muscular contraction of the one part with the muscular dilatation of another: that is, while there is contraction of the body and fundus of the womb, there must necessarily be, and is, a corresponding dilatation of the lower portion and the cervix, or that portion of the organ which has received that anatomical designation. The more equal these two widely differing actions are, the more easy, it is evident, will be the labor, and the less will be the amount of pain the female is destined to endure; and so long as these two actions continue to coöperate with perfect equality of force, so long will the labor be continued to the entire satisfaction of all concerned. But it is evident that this coöperative action may vary in a variety of ways.

1st. There may be no disposition in the lower portion or neck of the womb and the os uteri to dilate, while the upper portion is in a state of active contraction.

2d. The lower portion of the womb and the os uteri may contract at the same time with the body of the organ, and the abnormal contraction of the inferior portion may be either permanent or intermittent, and corresponding with the regular puerperal contractions. In these instances the os uteri would be undilatable, and, in the first, *rigid*. Every accoucheur has found in some cases of protracted labor, on examination, that the os uteri becomes tense during the continuance of the pain, and actually contracted in its diameter, and that on the subsidence of the uterine action it again becomes flaccid and apparently dilatable; and, in other instances, that the os uteri feels hard and rigid, not only during the continuance of the pain, but during the intermission also.

3d. The os uteri may refuse to dilate, and, at the same time, some other circumscribed portion of the uterus may take on that action. If this circumscribed spot should occur in the body of the womb, there would be danger of rupture, and the consequent passage of the child into the cavity of the abdomen; if in the lower portion, the head of the child would pass into a sort of cul de sac, with the same danger of rupture, but, in consequence of the locality, with no very essential danger to the patient.

4th. The contractions may be in a circular direction only.

5th. The contractions may affect the longitudinal fibres only, and in neither of these cases, it is easy to perceive, would there be any expulsive action.

6th. As the muscular fibres of the uterus are supposed to run and to act in all directions, it follows that they must all act with equal comparative strength, or the action is not regular; hence, all the fibres may be in action, and still the action be irregular, from this cause—that is, one set of fibres may act with one degree of strength, another with another degree, and so on, and the consequence, we may reasonably conclude, would be long, lingering, tedious, and ineffectual labor, but without any special tendency to rupture of the womb. Allowing these positions to be true, it follows, that uterine action may be *regular* and still not *perfect*.

Now, in the case which has been narrated, there seems to have been a disposition in the anterior and inferior portion of the uterus to dilate, while at the same time the posterior and inferior portions retained their position and the os uteri remained closed and strongly contracted. It is quite evident that if this state of the parts existed, while the superior portion of the uterus was making active parturient efforts, the necessary consequence would be, that the advancing head of the child would be thrown down into a sort of cul de sac, and the os uteri be thrown two or three inches, more or less, above the most depending part of the child's head, and looking towards the sacrum.

If this disposition to dilate happened to the *posterior* and inferior portion of the uterus, the os uteri would be thrown upward and under the pubis; and so, if the dilatation should happen on either side, the os uteri would necessarily be turned to the opposite. Is not this the state of the parts which actually happens in what is called obliquity of the os uteri?

Every accoucheur knows that where the os uteri is found to any great degree turned from the centre of the pelvis in any direction, he may expect, as a general thing, a long and tedious labor, and that his virtue of patience will, probably, be put to a pretty severe test.

If this obliquity were caused by a deviation of the uterus, in any direction from the median line or from the line of the pelvic axis, the evil might be altered by placing the woman in such a position as to cause the organ to fall towards the opposite direction. But, ordinarily, altering the relative position of the womb, does not materially alter the position of the os uteri, and the reason why is tolerably evident, and that is, that the centre of motion of the womb, at full time, must necessarily be very near its orifice, if not directly there; and besides, if any one will take the trouble to imagine the direction of the line of action of the uterus, (if I may so term the direction of the expelling force of the parturient action,) in any one of these cases of "obliquity of the os uteri," he will undoubtedly find that it will fall in such a direction as to bring the os uteri some removes from the centre of action. Now, if the effect of the throes of labor is to bring the fundus uteri very nearly or quite into the right position to make it correspond to the axis of the pelvis, so that the two points shall be in the line of action of the uterus, and it is believed that such is ordinarily the case—it is not readily understood how it is possible to conceive that obliquity of the womb has any thing to do with obliquity of the os uteri. True, some writers do not mention this obliquity of the os uteri; some barely notice it; and some give it a good deal of importance. It, however, does at times, perhaps, frequently exist in a greater or less degree, and the cause of it we have attempted, in as few words as may be, to point out; and the question now comes up:—May it not at times exist to so great a degree as to lead us into serious error?

If we admit that the os uteri may be turned to one side or the other *in any* degree, in consequence of irregular action, we may also admit that it may be turned, by the same cause, to so great an extent that it may become absolutely concealed at that point where the mucous lining is reflected from the depending part of the uterus to the vaginal walls. In a case of this sort we might (possibly) find a case of *atresia uteri*—a case, at any rate, in which it would be extremely difficult, if not impossible, by any ordinary means, to discover the os uteri, and which may at some time, perhaps, have passed for a morbid closure of that orifice.

In making this suggestion, we do not wish to be understood as denying the existence of this accident, for we have long since learned to admit the possibility of almost any thing. We do, however, desire to express the opinion that, from the nature of things, such an accident must be extremely infrequent, and more especially so in the pregnant state.

Every one, at all conversant with the subject, knows that it is extremely difficult to procure adhesions of the mucous membranes, and that Nature has particularly guarded the orifices of the mucous passages, with unwonted care, against the occurrence of such an accident.

Does a closure of these passages or their orifices *ever* take place by adhesion, unless some disease or accident occur which entirely changes the character of the mucous tissue?

Plastic lymph must be secreted before adhesion will take place, and it may even be doubted whether mucous membranes, while they remain such, ever secrete it. "When, by the violence of the local action, false membrane is thrown out on a mucous surface, we generally find that a fluid is effused between them, by which their adhesion is prevented, and the effused lymph may be discharged. We have examples of this in croup, when the false membrane is coughed up, and occasionally in virulent gonorrhœa, when shreds of lymph, resembling the urethra in shape, come away with the urine. In the experiments recorded by Mr. Hunter, it required the most violent means to induce adhesive inflammation in a mucous structure.[*]

We suppose that in all cases of pregnancy the os uteri is closed, not by actual contact of its sides, as in the closure of most of the mucous passages, but by the actual insertion of a plug of inorganizable mucus, and this fact makes it doubly difficult to conceive how closure by adhesion can take place, unless Nature sometimes makes a blunder, and fills the orifice with plastic lymph instead of mucus. It is possible, that a sufficient amount of mechanical injury may happen to disarrange this plug of mucus, and excite a degree of inflammation adequate to the production of adhesion. This, however, is almost apocryphal, inasmuch as Nature has wisely stepped in to prevent such an unlucky event; the first effect of an inflammation of a mucous membrane, under ordinary circumstances, being an increase in the natural secretion, which at the same time relieves the diseased action and prevents adhesion; and the second effect is a discharge of puriform mucus, which has a precisely similar effect. But nevertheless, such accidents are said to happen, and we occasionally find one of the kind reported in the periodicals. In Dr. Ashwell's *Treatise on the Diseases of Females*, several pages are devoted to the consideration of *Occlusion and Rigidity of the Os Uteri*, being a reprint, however, almost verbatim, of a monograph of his on that subject, published in *Guy's Hospital Reports* for April, 1839.

In this paper he quotes freely from a Thesis of Dr. Naegele,

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[*] V. MORGAN *On Inflammation and its Effects.*

Jr., *on Conglutination of the Os Uteri*, published at Heidelburg in 1835, referring to cases therein, and also to examples in Smellie's cases and elsewhere.

Several of the cases of occlusion referred to are so precisely alike in all their symptoms, that a description of one will almost answer for a description of the whole. Naegele, Ashwell, and Rigby, agree in the fact, that certain cases of agglutination occur in "which, by some adhesive process, apparently that of inflammation, the lips of the opening (os uteri) adhere and completely close it." Rigby, *Midwifery*, p. 312. "It is important to bear in mind, that such closure may not be attended by any other disease of the parts: the adhesion may be firm and complete, but there may be no scirrhous induration—no distinct nodule of hard substance; the neck of the uterus will be forced down by the pains; and the sensations imparted to the finger, on examination during labor, will be *quite natural*, excepting only that *no aperture* will be found." Ashwell, *on Diseases of Females*, 315.

Baudelocque describes this condition of the os uteri; but he, as well as North, Dewees, and many others, believes it to be owing to anterior obliquity of the womb. "Within our knowledge," says Dr. Dewees, "this case has been mistaken for an occlusion of the os uteri, and where, upon consultation, it was determined that the uterus should be cut, to make an artificial opening for the fœtus to pass through. They thought themselves justified in this opinion, first, by no os uteri being discoverable by the most diligent search for it; and, secondly, by the head being about to engage under the arch of the pubis covered by the womb. Accordingly the labia were separated and the uterine tumor brought into view; an incision was now made the whole length of the exposed tumor, by a scalpel, down to the head of the child, the liquor amnii was evacuated, and, in due course of time, the artificial opening was dilated sufficiently to give passage to the child. The woman recovered, and, to the disgrace of the accoucheurs who attended her, was delivered, per vias naturales, of several children afterwards,—a damning proof that the operation was most wantonly performed." *Compendious System of Midwifery*, §223.

In speaking of this state of the os uteri, Rigby says, p. 313:—"The os uteri is closed by a superficial cohesion of its edges, which in some cases seem to adhere by means of an interstitial fibrous substance: this, when of a firmer consistence, forms a species of false membrane, which, in some cases, is capable of resisting the most powerful uterine contractions, and in others it seems to cover the os uteri so completely, as to conceal it most effectually and give rise to the erroneous conclusion that the os uteri is altogether wanting." "Although," says Prof. Naegele, "this obstacle in some cases is capable of resisting the most powerful efforts of the uterus, a degree of pressure against it while in a state of *strong distention*, either by the tip of the finger or a female catheter, is quite sufficient to overcome it."

It seems to us exceedingly improbable, to say the least, that a slight adhesion of the os uteri, one that will give way to a slight scratch of the finger-nail, or a still slighter pressure of the catheter, should be able to resist the whole immense power of the uterus while in perfect action—a power which, under ordinary circumstances, is almost resistless. If the action of the uterus were perfect and regular, (we mean that compound action which we have supposed constitutes what is technically called a *regular pain*,) this would seem almost to be an impossibility; but if, as we have supposed, there should be a general contraction of the uterus, without the dilating action, or any disposition of the organ thereto; we apprehend there would be no probability, scarcely a possibility, that the os uteri would dilate at all; under such circumstances we imagine the uterus would be as likely to rend itself in one place as another, by its own action. But it may be said that when the uterus is incised, the fœtus is pretty soon expelled; this, however, is not always the fact, probably not in a majority of instances, as the recorded cases will show. Everybody knows that, when a muscle is cut, the divided ends recede from each other, and the greater the muscular action, the greater, of course, will be the recession—so in this case, the uncut muscular fibres continue their action, while the divided fibres, of course, retract, leaving an aperture through which the contents of the uterus would be forced, provided the uterine action be at all perfect in its character; but, even after incision, it is pretty evident that regular and perfect contractions of the uterus do not always follow, and in such cases we should infer (what cases show to be actually true) that hours might intervene between the operation and the expulsion of the fœtus, or, that it might even become necessary to make use of the forceps, or resort to some more serious operation.

We will refer to some of the cases on record, for the purpose of seeing how far our views are carried out by them.

From the monograph of Dr. Ashwell we derive the following, which are classed under the head of "*Entire Occlusion.*" Cases 2, 3, 5 and 6, are examples taken from the Thesis of Prof. Naegele. In all these cases "the occlusion was produced by cellular membrane filling up the orifices and uniting the margins of the aperture." In the two first and probably in the last, "the lower part of the uterus was rendered very hard and tense, and greatly pushed down by the uterine efforts; so that in one of the cases it might with some excuse have been mistaken for the bag or membranes containing the liquor amnii." In one of the cases the patient was more or less in labor for eight days; in another, for two days and nights; in the other two the time is not mentioned. In one case the pressure of the finger was sufficient to rupture the membrane, and in the others the female catheter was used; in all "parturition was accomplished without instruments, the children were living and the mothers did well."

In relation to these four cases, we have only to say, that we can perceive no especial difference between them and our own, excepting that, in one case, there was an evident dribbling away of the waters, pretty decidedly establishing the fact that there was a patent os uteri somewhere. Dr. Rigby informs us, on the authority of Prof. Naegele, that little or no pain is produced by this operation, and that "the appearance of a slight discharge of blood will show that the structure has given away." We respectfully suggest that the introduction of the tip of the finger or the catheter into the os uteri, when in a state of *strong distention*, and but slightly or not at all dilated, will always produce a "slight discharge of blood," so that, although this discharge may be evidence that the obstacle "has given way," it is not necessarily evidence that there was any obstacle there. Is it not true that, sometimes, irritating the os uteri with the tip of the finger will produce regular and perfect uterine contractions, when they had previously been imperfect and inefficient—and may not an incision (the stimulus of the knife) produce at times the same effect?

We admit our perfect inability to see any thing, in these cases, beyond a lingering labor, the natural and unavoidable consequence of a peculiar, imperfect and irregular uterine action.

CASE 4 (from Prof. Naegele's Thesis).—"No uterine orifice could be detected, although the lower segment of the womb was pushed almost to the lower orifice of the vagina—this was on the third day after the accession of the labor—the woman was very much exhausted—an incision was made with the scalpel—a dead child extracted by the forceps, and and in the evening the woman died."

No. 7 (from the same).—"The patient had suffered from leucorrhœa during the whole period. There was no os uteri, and on the third day of the labor one was made by incision—six hours afterwards he applied the forceps and brought a living child into the world—the patient recovered well—the orifice retained afterwards the form it had received from the incision, and in the next confinement there was no necessity for interference."

No. 8 (from the same).—"The labor commenced on the 2d of May, and the Doctor, after repeated examinations, was unable to find an os uteri. On the 4th an incision was made in the *neck* of the womb," (how was the neck found, when the os tincæ could not be?) "and, in twenty-two hours afterwards, the child was brought away by the forceps."

These seven cases are all more or less deficient in detail. We are told nothing of the general health of the patients during the period of pregnancy,—no accident is mentioned which would have given rise to inflammatory action in the parts concerned,—nothing is said about pelvic deformities, and no abnormal condition of the soft parts is mentioned, with one exception—that in which the patient had leucorrhœa. Under such circumstances, we may reasonably conclude that the patients were all in ordinary health during pregnancy, with the exception of the occlusion of the uterus. In the three last cases it is distinctly stated, that no os uteri could be found—that it did *not* exist, we, of course, are unable to prove, except by negative evidence. The patients had been in ordinary health—there is no evidence that any local disease existed which could have produced organic adhesion; for we imagine the leucorrhœa, which one of the patients had, to be totally incompatible with adhesion. If organized or vital adhesion had once taken place, we can see no reason why it should not again have happened after the operation, and effected a perfect closure of the womb. We are not informed that was the fact in any case, but, on the contrary, we are distinctly told in one of them that, "in the next confinement there was no necessity for interference." We are not told that menstruation did *not* occur in due course; we are therefore at liberty to infer that it *did*, and, indeed, we are told that "the mothers did well" in four of the seven cases.

May we not, in view of these circumstances, reasonably doubt the existence of organic closure of the os uteri in all these cases? But, the case on which Dr. Ashwell seems to pin the most of his faith, is one reported by Mr. Tweedie, in *Guy's Hospital Reports*, and is to be found also in Dr. A.'s

Treatise on the Diseases of Females, p. 326, and is headed "*Pregnancy with imperforate Uterus.*"

We give the case in a somewhat condensed form:—"Mrs. P., aged 23 or 24, was taken in labor, with her first child, on the 14th or 15th of November, 1826, at 7 o'clock." * * "Mr. Roe (the attendant) observed the pains to be urgent and very powerful; but, although he remained several hours with her, he had not succeeded in discovering the os uteri."

Mr. Tweedie (the reporter) saw her at 2 o'clock; he says:—"I found a firm, uniform globular mass forcing down into the vagina, at every pain, which was of great force, *but no irregularity on its surface could be detected*," (the italics are our own,) "and a very careful examination of the entire vagina, whose extremity was easily reached at all points, failed in detecting an os uteri."

"In the evening we met again—the labor pains had persisted, and were of unusual severity." * * * * "A most careful examination of every part of the vagina failed to detect any os uteri. At the upper part of the canal, at each pain there was forced down this tight, tense, globular body, of the bulk of the child's head; and conveying the impression of an entire uterus, without orifice. About the spot where the os uteri should have been, *was a minute portion, somewhat thinner than the surrounding parts;* but the whole was uniformly smooth and contained no break whatever." * * * * "Both before and subsequent to her marriage, she (the patient) enjoyed good health; and although, in the necessary duties of her vocation, she has undergone an unusual degree of laborious exertion, still she has not had a day's illness. For two or three days before labor came on, she noticed a rather copious reddish discharge, that continually drained from her; but there was no pain. On the subsidence of this, about the 12th, slight pains in the back were felt, which went on till the night of the 14th, when they assumed a severe and urgent character." * * * * Dr. Ashwell was now called in, "and having, by a careful examination, positively confirmed the statement of the condition of the parts already made, he determined upon losing no more time in making an artificial opening across the above-named spot, where the globular body seemed slightly thinner than elsewhere." * * * An incision was made, "the liquor amnii of course escaped, and the head fell upon the artificial opening, which proved to be of the diameter of one and a half, or, perhaps, nearly two inches, and about a line in thickness." * * * "Dr. A. left at 1 o'clock, A. M., of the 16th; the pains abated for a brief space after the operation—they, however, recurred—but little advance towards dilatation appeared to be made for some time, till about 4 o'clock, A. M., when, under the influence of a severe pain, the edge of the orifice tore suddenly on the right side, and soon after another rent took place. She now became faint." * * * "After waiting about two hours the pains recurred gradually, and became as powerful as at any previous stage of the labor." * * * "The patient was delivered at 11 o'clock, A. M. The child was still-born, but revived."

On examination, after recovery, it was found that the vagina was unusually short; *there was no cervix uteri;* the scars left by the operation and the rupture were distinctly to be felt; at the extremity of the vagina was the os uteri, in the form of a puckered, irregular orifice.

In this case there was unquestionably congenital malformation of the cervix uteri, which of itself may have had considerable influence in modifying or even producing many of the symptoms in the case, especially if the muscular structure was in any way influenced by the abnormal condition of the neck.

If such were the case, or even if it were not, it is not unreasonable to suppose that the action of the uterus was imperfect. The pains, it seems, were severe and recurred shortly after the operation, but with little advance towards dilatation till about 4 o'clock, from three to six hours or more after the incision was made (we are told that Dr. A. left at 1 o'clock, A. M., but not at what hour the operation was performed), when a severe pain rent the os uteri extensively and was followed by faintness and exhaustion for two hours, when the pains again recurred, but even then the labor was not completed till 11 o'clock, A. M., 10 or 12 hours at least after the operation. If the pains had been perfect in character, it is scarcely to be supposed that the closure of the labor would have been so long delayed after the incision, and more especially, as we have reason to believe (we are not informed to the contrary) that the patient was anatomically faultless, and that there was no *diseased rigidity* of the uterine fibres.

Was this a case of perfect closure of the os uteri? Mr. Roe found, on examination, a firm, uniform globular mass, but failed, by the most careful search, to detect any os uteri; nevertheless, "about the spot where the os tincæ should have been, was a minute portion somewhat thinner than the surrounding parts."

There can be no reasonable doubt, we imagine, that this *point* was the os tincæ, and that it was a patent one, too; for across this point the incision was made, and from the os tincæ, it was afterwards found, the cicatrices of the incisions radiated. It will be remembered that, for two or three days previous to the accession of the labor, the patient had a pretty "copious reddish discharge" continually draining from her. From what point did this issue? Under ordinary circumstances, we should, of course, say, from the os tincæ. If there was no os tincæ, some other origin must be found; but we leave that point for those to discover who are interested. From the experience derived from the case we have reported, and, with all due deference, from many of the cases we have quoted, we consider it to be a very difficult matter, and one which requires the very nicest sense of touch, to detect in a *tense, wet membrane* a small orifice or slit, and the latter, even, cannot be detected at all times with the sense of sight superadded.

We have already intimated, that it is somewhat puzzling to understand how, after fully organized closure of the os uteri, an incision made across it should be any more liable to remain open at that precise point than at any other in its course, or why, indeed, there should not be very great danger of its adhering again, at all events. But so far from there happening any such untoward event in this case, Dr. Ashwell informs us that the medical attendants of Mrs. P. have "*in three succeeding labors been compelled to resort to incision*"*!!* If there be congenital defect in the muscular structure of the cervix uteri, we should be inclined to believe that the necessity for incision is tolerably apparent. We are not told whether, in these three last cases, the uterus was entirely imperforate, as it was in the first; if it were, the os tincæ must have been of a very accommodating character, to remain open till impregnation took place, and then close itself up, probably to prevent abortion and hemorrhage.

The operation of vaginal hysterotomy for occlusion has been performed in this country three times (perhaps more) —twice by Professor Bedford, of New York, and once by Dr. W. H. Reynale, of Buffalo.

The first of Prof. Bedford's cases was reported in the *New York Journal of Medicine* for March, 1843, which I have not at hand, but only a short notice of it, appended to his second case, which is to be found in the *American Journal of Medical Sciences* for April, 1848.

In the first case, the closure was produced by injuries inflicted on the os uteri in an attempt to procure abortion. It was quite evident that the os uteri was obliterated. The child was expelled in ten minutes after the incision was made, affording pretty good evidence that the uterine action was perfect and efficient. Is it possible that the muscular structure of the neck of the womb was injured, by the violence inflicted, to so great a degree as to prevent its action? If such were the case, we should infer that an operation might have been necessary, even although the os tincæ had been pervious.

In Dr. B.'s second case, the labor pains were decided and regular. Dr. Clinton, the attendant, was unable to detect any os uteri. After 14 hours, the pains increasing in violence and becoming expulsive, Prof. Mott was called in, who was also unable to find any os, but supposing that some change might take place, during the night, in the position of the parts, which would enable him to reach it, the patient was left in the care of Dr. C. "He made several examinations during the night, and could feel nothing but a globular, smooth, and uniform surface." Prof. Mott returned in the morning, and again failed to detect the os uteri. The case now assuming a dangerous character, Prof. Bedford was sent for, who, on examination, "could not find the slightest trace of an os tincæ, and became satisfied, after thorough exploration, that it was entirely obliterated."

The patient had now been in labor 40 hours. "Under these circumstances," says Prof. B., "it was proposed to lay the womb open, through the vagina, and, at the request of Drs. Mott and Clinton I proceeded to perform the operation as follows:—with a probe-pointed bistoury, covered," etc., etc., "I made a bilateral section of the neck of the womb," [how is the neck of the womb to be distinguished and identified, when there is nothing to be felt "but a globular, smooth, and uniform surface"?] "extending the incision to within a line or two of the peritoneal cavity. The head of the child was immediately felt through the opening, the pains continued with violence, but there was no progress in the delivery. The *neck* of the womb was exceedingly hard and resisting, and presented to the touch, after the incision, a cartilaginous feel." * * * "At 6 o'clock in the evening, the head had not descended, nor had any impression been made on the opening, although the pains had been severe. I then made an incision through the *posterior lip*" [although not the "slightest trace of an os tincæ" was to be felt!]. A weak solution of tart. emet. was now administered, with a view, if possible, of procuring relaxation. At two o'clock, A. M., the pains were violent and excessive, but with no change on the head of the child; the incisions were enlarged and new ones made. At 7 o'clock, "the patient being much fatigued, a Dover's powder was given, which procured a comfortable sleep." * * * "At 11 o'clock, A. M., the opening had dilated somewhat, and the head could be more distinctly felt" * * * "there was much heat about the parts, and the scalp was corrugated." * * * At 6 o'clock, Monday evening, "the patient's strength was evidently giving way and her pulse rose to 140." The forceps were now employed, and, after a good deal of trouble, a living child was brought forth, 70 hours after the commencement of the labor and 30 after making the first incision.

Dr. Reynale's case was reported in the *Buffalo Medical Journal,* and copied into the *New York Journal of Medicine* for Nov., 1851. After the labor had continued 28 hours Dr. R. was satisfied that "there was no os nor cervix uteri; everything was perfectly smooth where the natural opening ought to have been, and I could feel," says the Doctor, "the child's head pressing down on the soft parts." Counsel was called. The vaginal speculum was used, and where the os uteri ought to have been a probe was employed, but nothing in the shape of the smallest opening could be found. All agreed that the os and cervix uteri were wanting, and that there was no natural opening for the child to pass through. An incision was made, and in two hours and a half the patient was safely delivered.

In the first of Prof. B.'s cases, we are informed that there was a sufficient amount of mechanical injury to produce entire organic closure of the os uteri. But we confess we should like to know what is the present state of the parts concerned, and especially whether the original os tincæ has, since the operation, remained pervious, or, in other words, whether the lady has since that time become pregnant. We have no doubt but the menstrual fluid might escape through an artificial opening in the womb; but that a female should become pregnant in that way is rather apocryphal.

In the second case of Prof. B., and in that of Dr. Reynale, there is no evidence of any disease, or inflammatory action of the cervix, that would in any way account for the closure. In Prof. B.'s case there was a rigid state of the neck, but in the other there was not even that.

What is the present state of these cases, and have these females, since the operation, menstruated or become impregnated?*

Is it not a little singular that, in all the cases of *entire occlusion* referred to by Ashwell, including those we have cited, there should be only three in which the closure was produced by any *apparent* disease of the parts concerned?

First.—The case of Mrs. P., in which there was evident congenital malformation, and in which we think there is reasonable doubt of perfect closure.

Second.—A case referred to by Dr. A., which we have not noticed and which is to be found in Gooch's *Lectures on Midwifery*, Phila. ed., page 182. Dr. G. says, "it sometimes happens that women become pregnant, in whom the os uteri has been destroyed by previous disease. A case of this kind was related to me by a gentleman on whose veracity I can rely, in which, after a miscarriage, extreme sloughing of the vagina took place, comprehending the os uteri, in place of which there was only a hard, contracted circle, as if formed by a cicatrix."

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* It is, perhaps, worthy of remark. that in no one instance in which an incision has been made in case of supposed perfect closure of the uterus, has there been any certain guide to the exact location of the os tincæ, and the section has therefore been made, as one of the reporters says, "where the os uteri ought to have been." In three of the five cases, the details of which are given by Dr. Ashwell (including Dr. Gooch's case), pregnancy took place after the operation, and a fourth died. In the cases which have occurred in this country, we have not been informed whether pregnancy has taken place or not. The operators in these cases must have been extremely fortunate, to hit the precise point of an obliterated os uteri three times out of five, without any guide. If this were not the case, we must necessarily suppose that the strong organic adhesions of the sides of the opening gave way of their own accord, hus enabling the organ to execute its natural functions in a satisfactory manner.

It is doubtful whether Dr. Gooch intended this case as an example of complete closure of the opening into the womb. Does he not confine his definition of "os uteri" to the opening into the neck of the womb, so that, if the neck be gone, the os uteri is consequently removed along with it? He speaks of the case as one of pregnancy taking place *after* the os uteri had been *destroyed* by previous disease; and that pregnancy can take place without an opening into the womb is not exactly a supposable case. The case is evidently one in which the muscular structure of the neck of the womb was destroyed previous to impregnation, and hence the necessity for an incision.

Third.—The first case reported by Prof. Bedford is the only one on record, so far as we have been able to discover, in which perfect occlusion has happened as a consequence of any injury or *apparent* inflammatory disease, occurring after conception had taken place.

Has any post-mortem examination ever been made that would show distinctly the fact, that organized adhesion of the entrance into the womb has ever yet taken place in the impregnated state? We have seen none.

We conclude, that although the operation of vaginal hysterotomy is almost entirely devoid of danger when properly performed, and at the proper period, yet it is one that is very seldom required, and that the circumstances calling for it will most frequently be found in diseased or abnormal conditions of the muscular structure of the neck of the womb; for instance, when the muscular structure of the cervix uteri is changed in character, or destroyed by disease or mechanical injury, or when there is congenital defect in it. This idea, we think, will be found to apply as well to cases termed rigidity of the os uteri as to those in which there is supposed to be an entire occlusion. We see no especial difference.

In the present state of our knowledge, and until some remedy can be found that will equalize the action of the uterus (so to speak) and produce "pains" which shall be both perfect and regular, it is possible that a case may occur in which incision will become necessary, to relieve some obstinate muscular contraction of the os uteri: such incision, however, would not ordinarily regulate the uterine action, and the probable result would be, delivery with the forceps.

ART. V.—*On the High Operation for Stone in the Female.* By W. PARKER, M. D., Professor of Surgery in the College of Physicians and Surgeons, New York.

THE method of practicing lithotomy, by what is called the high or supra-pubic operation, has, since its first introduction into practice, about the middle of the sixteenth century, had strong advocates, and been at various periods frequently, and by some surgeons exclusively, performed. It has never, however, at any time, met with general favor, and as an operation has been considered proper only in certain exceptional cases.

Franco, who first operated in actual practice, did not advise the operation, although his case was successful. Rossuet strongly advocated this method, but never put it to the test of actual experiment. Côme practiced it frequently, and improved upon the methods of his predecessors. It was early introduced into England, and on its revival by Douglass, in 1719, it was practiced with such success by several London surgeons as to gain great favor. Cheselden operated successfully nine times in one season, and, when the high operation fell again into disuse, he remained its firm supporter. He remarks of his success:—"I lost no more than one in seven, which is more than any one else, that I know of, could say; whereas, in the old way (cutting on the gripe), even at Paris, from a fair calculation of above eight hundred patients, it appears that near two in five died." It, however, fell into complete disuse, though it was advocated subsequently by Carpue, Home, and others.

Of modern authors who have recommended this operation as preferable in general to any other, the most prominent are Dr. Souberbielle and Mr. Carpue. The former published a paper in the *Memoirs of the Royal Academy of Medicine*, Paris, 1840, on the operation of lithotomy, which contained his experience of the high operation. He had then performed it 39 times, and, of this number, 11 proved fatal, being a mortality of 1 in $3\frac{6}{11}$. Although this is a great comparative mortality, much exceeding that which follows the lateral operation, yet it must be considered that many of his cases were of the most unfavorable character, admitting of no other than the operation above the pubes. The opinion of one who has had so large an experience is entitled to great weight. "With certain exceptions, therefore," he says, "depending upon age and peculiar circumstances, I practice the high operation, and my preference for it is founded on reason and experience; indeed, by this method, calculi may always be extracted without reference to their size, their number, their situation, the condition of the prostate, etc.: the operation is less painful than any other mode of cutting into the bladder, and exposes the patient to the fewest casualties. The skin, the linea alba, the cellular tissue, and the bladder, are the only textures implicated in the section; whereas, in the perineum we encounter a variety of structures, which it is difficult to avoid, and the necessary lesion of which may give rise to hemorrhage, stercoraceous fistulæ, infiltration, impotence, etc., none of these dangers are incurred by cutting into the hypogastrium. The history of the post-mortem examinations of those who have sunk after the high operation goes to prove that the operation is never itself a cause of death, but that the fatal event has been the result of previous organic alteration or disposition to disease, whose origin was clearly not referable to the operation, which, indeed, would exercise no other influence upon it than that of hastening its development."

A very complete summary of the high operation is contained in a statistical article by M. Humphry, in the *Transactions of the Provincial Med. and Surg. Assoc.*, Vol. 17, p. 103. Introductory to his tables, he remarks:—"The feeling of surgeons, in this country more particularly, has been of late years very adverse to the high operation of lithotomy; so much so, that I am not aware of its having been performed in England since the unsuccessful attempts which were made in St. George's Hospital, soon after the favorable cases published by Sir Everard Home. That the lateral operation deserves the preference in by far the majority of cases, and that the high operation is to be accepted only as an occasional and disagreeable alternative, I need not stop to prove. The only question is, whether it is to be resorted to under any circumstances." * * The whole number of cases collected was 104, of which 31 were fatal, or less than 1 in 3. The results of this collection are not to be relied upon in estimating the fatality of the operation, for in the majority of instances it was selected, because the lateral operation was not admissible. The only method of estimating accurately the dangers of the operation is evidently where a certain number of cases have been taken indiscriminately. Chelius very justly says:—"If the advantages and disadvantages of cutting for the stone above the pubic *symphysis* have to be critically reviewed, this can only be done from the results which Douglass, Cheselden, Frère Côme, and Souberbielle, have kept, without distinction of the operations performed on a certain number of patients, both men and women, with small and large stones. These results are but little distinguished from those of the lateral operation." In this view the high operation has proved as successful as the lateral. Maund is said to have lost but 5 patients in 40 operations; Côme lost 19 in 100; Cheselden 1 in 7. The principal objections to this operation are the dangers of urinary infiltration, hemorrhage, and wounds of the peritoneum. These accidents, however, are rather due to the method of operating or the carelessness of the operator than to any *necessary* result of the operation. Urinary infiltration took place but once in the 39 cases reported by Souberbielle; hemorrhage but once in the same number, and this was owing to the idiosyncrasy of the patient; and in but two was the peritoneum wounded, and in neither fatally.

I do not desire from these remarks to appear as an advocate of the high operation for stone in general, but submit them as necessary to a correct appreciation of the comparative results of the operation. From this generally successful issue of the high operation, I have been led to practice it in a certain class of cases, where I deem it preferable to any other. I allude to calculus in the female. Notwithstanding the great number of methods which have been devised for performing this operation, there is as yet no prescribed course which may invariably be followed, to the avoidance of the many disagreeable consequences that often result. The same unsettled opinion has recently been expressed by Mr. Fergusson, in a lecture on *Calculus in the Female, (Med. Times and Gaz.)*. He says:—"A very interesting and important problem remains yet to be solved—which is the best way of extracting a stone from the female bladder? I hope the time may arrive when a true solution will enable the operation to be performed without incurring the hazard or annoyance of an incontinence of urine, which, I am sorry to say, is but too apt to follow an operation involving the female urethra."

The solution of this question, as far as my own experience and practice are concerned, is, that the high operation is the safest method yet pursued. In the two most recent cases in which I have operated for stone in the female, the high operation was followed with the most satisfactory results. In both instances I took the precaution to hook up the walls of the bladder, after being exposed by the incision, before laying it open, and by this means effectually prevented urinary regurgitation and infiltration. I consider this a very important step, and one which ought never to be omitted. The following cases embrace my experience of this operation:

CASE 1.—Mrs. L., æt. 53, married, and the mother of ten children, had always resided in the interior of Ohio, and had invariably enjoyed good health until about four years previously to the time of her coming under my observation. Her first complaint was of suffering in passing water, the symptoms being those of urinary calculus. The physician in attendance had examined the bladder with the sound, and detected the presence of a stone. I was called in consultation, with special reference to the operation. As the patient resided some 80 miles distant from me, and her sufferings were becoming more and more aggravating, there seemed no alternative but the knife.

The stone was large, and I determined to perform the high operation. The operation was commenced by injecting the bladder with warm water. To accomplish this, the patient was placed upon the table in the proper position for lithotomy, and the fluid being slowly injected, an assistant pressed the urethra firmly against the arch of the pubes, to prevent its escape. This preparatory step having been taken, I proceeded to make an incision above the pubes, and extended it two and a half inches along the linea alba, cutting down to the bladder. I now opened the bladder with a pointed bistoury, which was followed by such a regurgitation of fluid through the artificial passage, that the assistant was directed to remove his finger from the urethra, and allow the contents of the bladder to escape. I then introduced the *brise-pierre* of Baron Heurteloupe into the bladder, through the urethra, and separating the blades, I raised the fundus towards the external opening, until I was able to reach it with the tenaculum. With this instrument, and the aid of an assistant, I kept the bladder firmly drawn up to the external opening. The incision not being sufficiently free, was now enlarged, and the finger being introduced, the forceps were readily carried into the bladder, and the stone seized and removed with great ease.

The operation was terminated by closing the upper portion of the wound, and leaving the lower part open to admit of the free escape of urine, or pus, and thus prevent infiltration. The patient recovered rapidly. The stone was nearly two inches in length, and one and a half in breadth.

CASE 2.—Miss M., æt. 53, living in the country, consulted me for symptoms of calculus, which had existed for the last seven years. On examination, I found a large stone. The urine contained pus, and epithelial scales from the bladder; regarding this organ, however, sufficiently sound for the trial of lithotripsy, I proceeded to prepare her system for this operation, by vegetable diet, demulcent drinks, and attention to the bowels.

The operation was commenced by the usual injection of warm water. I then introduced the lithotripter, and seized the stone, but could not break it by the force of the hand. With the hammer, I succeeded in breaking off about one drachm, in small pieces. These were proved to be oxalate of lime, on applying proper tests. These attempts were repeated up to the ninth day, but with no success; and in the mean time the bladder had become inflamed with considerable constitutional disturbance. She was now kept quiet in bed, as all motion was attended by much pain.

In about three weeks the system became tranquil, and I proceeded to remove the stone by the high operation. The following were the steps of the operation which I performed:

First.—The patient was put fully under the influence of chloroform.

Secondly.—The bladder was injected with flax-seed tea, and owing to the system being under the influence of the anesthetic, the injection was introduced without any resistance, and the organ well filled.

Thirdly.—An assistant prevented the escape of the fluid, by pressing the urethra against the pubic arch.

Fourthly.—The pubes being well shaved, I made an incision along the linea alba, through the fat and muscles, until I reached the bladder.

Fifthly.—I now hooked strongly through the bladder, by large tenacula, and gave them in charge of assistants. I then punctured the bladder with a pointed bistoury, and made an incision about one and a half inches in length. No regurgitation took place. Upon my finger I introduced the ordinary nasal polypous forceps, and easily removed the stone.

Sixthly.—The assistant now removed his finger from the urethra, the fluid escaped, and the hooks were removed.

The upper part of the wound was closed with a suture and straps, the lower portion being left open for the escape of any discharge. The operation was performed on the 12th of October, 1853, and on the 22d she was able to sit up. The result was very satisfactory.

CASE 3.—Patient was Mrs. E., æt. 47, a widow. This lady had suffered from a stone in the bladder, until she could hardly move about; and at the time she came under my observation, her sufferings were intense. The urine was alkaline, and loaded with pus and blood.

I ascertained that I could do nothing with the lithotripter, and accordingly advised an operation as the only hope of relief. She at length made up her mind to submit to the operation, and sent for me for the purpose of having it performed.

On the 25th of August, 1854, I operated according to the plan laid down in the preceding case, and notwithstanding the amount of disease of the bladder, the patient improved greatly, and three months after she was comfortable, but had a slight opening above the pubes, from which pus, at times, escaped.

ART. VI.—*An Analysis of the Symptoms of twenty-one cases of Meningitis in the adult.* By J. LEWIS SMITH, M. D., Physician to the Northwestern Dispensary, New York.

PERHAPS there is no inflammatory disease so vaguely written upon, or so little understood, as inflammation of the arachnoid and pia mater. This arises chiefly from the fact that this inflammation usually coëxists with that of the dura mater, or cerebral substance, or with disease elsewhere, modifying and obscuring its symptoms, and, perhaps, changing its course.

My purpose, in this paper, is to determine whether the books give a correct account of this disease, and to this end I have collated, as far as possible, records of primary meningitis, and secondary, where the primary disease seemed so mild as not to produce any material modification in the patient's condition.

My investigations have been restricted to adults, from the reflection that in them the symptoms may be different from those in childhood; and in order to avoid those numerous cases of acute hydrocephalus, which is especially a disease of early life.

The whole number in my collection is only twenty-one, as, for various reasons, I have rejected most of the recorded cases of this disease. Of those published in Abercrombie's celebrated treatise, I employ only one; the rest, with the exception of a lady, in whom the disease was combined with inflammation of the ear, being either children, or else showing, after death, merely a vascular condition of the membranes. Vascularity, with or without serous effusion, may indicate, it seems to me, simply a state of congestion; and I find that Dr. Watson, of London, objects to these cases of Abercrombie, on this ground.

The French writers, as Andral, give minute records of meningitis, but most of the cases published by them present such complications, that I have not dared to use them.

Records where the patients recovered, and several such are found in the journals, have also been rejected, in the belief that we cannot yet make a positive diagnosis of meningeal inflammation from the symptoms. Only such cases have been employed as showed after death a lymphy deposit on or under the membranes.

Before proceeding to the analysis, a word should be said of the so-called cerebro-spinal meningitis, an epidemic disease, which has prevailed in various parts of Europe, as

Gibraltar and Strasburg, and in our own country. The pathology of this disease is not yet understood,—some considering it a local, others a constitutional affection; and there has been a corresponding discrepancy in the treatment. Whatever may be its nature, it is evidently very distinct from the sporadic inflammation, and cannot properly be considered with it.

In nine of the twenty-one cases, the cause of the disease was not apparent. Perhaps, in some of these, a more minute autopsy would have discovered a morbid process, to which the inflammation was secondary; for the best pathologists agree that secondary meningitis is more common than primary. If, in any of them, such disease were present, it was no doubt mild, to have escaped detection. Five had tubercles in the membranes, in the midst of the inflamed surface, and in four there were tubercles in the lungs, and not elsewhere. Meningeal inflammation has been frequently noticed to accompany phthisis; and as post-mortem examinations often reveal the inflammation, without the presence of tubercles to excite it, the tubercular *diathesis* has been properly called the cause of the meningeal disease. When tubercles are found on the membranes, they, no doubt, in some instances are deposited during the inflammation, just as pneumonia may cause the first tubercular deposition to take place in the central or lower part of the lung, instead of its usual seat, the apex.

In one case, the meningitis seemed to arise from erysipelas of the neck and scalp, in one from intemperance, and in one from reaction after profuse hemorrhage. From the records, it does not appear that the primary and secondary forms differed in any important particular. On the average, the symptoms, both in kind and intensity, seem to have been about the same.

Determining the duration of the disease has been somewhat difficult; but dating from the commencement of well-marked cerebral symptoms, as headaches or delirium, I find, in fifteen cases, the period to vary from one to thirty-three days, with an average of fifteen. In one other case, the time seems pretty accurately fixed at three and a half months, including an interval of improvement.

Symptoms.—Headache was one of the most common, generally severe, but sometimes slight. It is recorded in fourteen cases, in all of which it began the first day, and continued till the patients sank into delirium or coma. In no case is its absence recorded.

One only had convulsions. This man was a soldier in the French army at the time of its retreat from Moscow, subsequently to which he was subject to epileptic attacks. An autopsy of all the viscera showed no disease except the meningitis.

How the opinion has become so prevalent, that inflammation of the meninges gives rise to convulsions I do not know, but presume it is because this disease is most common in childhood, and convulsions usually attend this as well as other encephalic diseases in early life. Perhaps English and American physicians have derived their knowledge of diseases of the brain and membranes more from Abercrombie's treatise than any other source; and, as we have said, nearly all the cases in his collection were children. He gives the opinion that "the more common form in which the attack takes place, is by a sudden and long-continued paroxysm of convulsions," alluding to an attack of meningitis. On the contrary, our analysis clearly shows that convulsions are not a symptom of this disease except in childhood, and this correction should be made in our standard works.

A rigid and flexed state of the upper extremities was present in one case, in one trismus, in another paralysis of one side of the face, in another of an arm, and in four of an entire side.

Delirium was noticed in fourteen cases; in three coming on in the commencement of the disease, in the others not till near the close of life. It is not stated whether the remaining seven were delirious, so that if this symptom were present, it was probably of the passive kind.

Vomiting, so common in the acute hydrocephalus of childhood, occurred in only six cases, and in these, with one exception, not till the disease was well advanced.

The pupil in six cases was dilated during the comatose state, and in two others, before the development of coma, it was contracted, the condition during coma not being mentioned. Besides these, four exhibited some unnatural appearance of the eye, as strabismus, occurring, probably, from effusion. In the remaining cases the condition of this organ is not recorded. In one instance where the pupils were dilated, thirty leeches were applied to the neck, and while the bites were still bleeding contraction took place. This goes to show that simple congestion may cause dilation, which may not, therefore, be always so grave a symptom as is usually thought.

Retention of urine was present in six cases, and incontinence in one.

The pulse in seven was under eighty till near the close of life. Of these, three were phthisical, two had headache for two years, and one for life, one had had pain for a considerable time in the lumbar region, the cause not being apparent, and in the other the inflammation appeared to be primary. Three had a pulse varying from 80 to 100, two were phthisical, in the other the inflammation was primary. Three had a pulse over 100, of whom two were consumptives. The thought may occur, whether this discrepancy in the condition of the pulse may not have been due to compression from the effused fluid. A compressed state of the brain will, in many instances, prevent acceleration of the pulse, though the inflammation is intense. But this explanation does not answer, for the symptoms of compression were generally absent till near the close of life. It is better to consider this diversity due to a difference in the grade of inflammation, as is the case in the inflammation of other serous membranes.

The mode of death in sixteen cases is given, in all by coma, varying from a few hours to two or three days. Generally the effusion of serum and lymph seemed sufficient to cause the coma.

The seat of inflammation in seven cases was the base of the brain, in four the convexity of one hemisphere, in three the upper surface of both, and in two the entire meninges. In the remaining cases the seat of disease was not recorded accurately, though the deposit showed undoubted inflammation.

From this analysis the following conclusions may be drawn:—

1st. That a common cause of meningitis is the tubercular diathesis.

2d. That if in any of these cases the inflammation was primary, and not dependent on a diathesis, it did not differ materially from the secondary form either in gravity or duration.

3d. That meningitis usually commences with headache.

4th. That convulsions are not a symptom of it.

5th. That delirium is present in the majority of cases, occasionally early, but generally not till the disease is far advanced.

6th. Vomiting does not occur till a late stage of the inflammation, and then in only a moderate number of cases.

7th. The pulse differs in different cases, and is, therefore, the less reliable as a means of diagnosis.

8th. Paralysis sometimes occurs at a late stage of the disease, but generally there is no contraction or rigidity of the limbs.

9th. That the mode of death is by coma. It is not our object to speak of the treatment, as all the cases were fatal, and in no instance did the remedies differ materially from those recommended in the books.

Art. VII.—*Remarks on the Diseases of Oneida County, N. Y., in* 1854. (Read before the Oneida County Medical Society.) By John McCall, M. D., of Utica, N. Y.

The last season was one of deep and abiding interest to our profession, and the great community generally, from the fact that the heat and drouth of the last summer exceeded in those particulars all former seasons, as far as my memory serves me.

The diseases which fell under my observation and care, were, in some respects, unlike those of former seasons. This was true of fevers and bowel complaints. In all cases there was manifestly more loss of physical and mental power than usual, even with those persons who fortunately escaped sickness; and this was especially true in the cases of illness which came under my care.

Early in the season we met with sundry instances of mild forms of fever, remittent and intermittent, requiring, or at least receiving from me, but little medication, especially of the active or heroical character.

Bleeding, vomiting, or "catharticising" the bowels, in the language of a former "heroic member of the trade," were not used or advised by me; nor was bleeding resorted to in a single instance.

And here let me caution you not to be surprised, when I assure you that I have not bled a patient from the arm during the last fourteen years; and rarely have I leeched or cupped during that time.

In the treatment and management of diarrhœa, dysentery, cholera morbus, and cholera infantum, I have less to say than may be expected of me. In truth, I have but little to communicate on that subject. I relied much on confining my patients at once to their beds. There I often bound them down, if I may use the term, as if they were insane, and required strait-jackets, and in no instance allowed them to be up until their complaints became cured. Bathing, cleanliness, and pure air, with a rigid system of diet, just sufficient to sustain the vital forces, were pursued in all cases; medicines in small doses, administered at long intervals, constituted the chief means of treatment.

In several severe cases of dysentery, cholera morbus, and cholera infantum, recoveries took place unexpectedly among old and enfeebled persons, as well as in young and delicate children.

A few of these cases gave me much solicitude and apprehension. I can only say I have never been so fortunate in any one year of my practice; for, as strange as it may seem, I have lost only two patients, both of whom died of pulmonary consumption. One was a young lady who had fallen into my hands only a short time before her death, and who had been an invalid some time before that event. The other was a man of intemperate habits, who sent for me only a few weeks before his death.

This experience of good fortune is stated, not as evidence of superior skill or success, but simply of good luck.

In a few instances, I had from one to two or three members in the same family sick with a grave form of typhus fever. These cases occurred in June, July, August, and September.

The first case in one of these families was that of a young man, a member of the bar, who had never before sickened with that or any other form of fever. He came down suddenly and severely on the 27th June, with great loss of muscular and nervous power, and more or less delirium, almost from the first visit I made him. This was a case of typhus fever of the worst form, as I regarded it; as evidence of severe lesion of the brain and nervous system, there was bleeding from the nose and bowels, great embarrassment of respiration, pulse exceedingly compressible, and ranging from 125 to 135 in the minute; tremulousness of the hands, low muttering, delirium, picking the bed clothing, and indistinct and difficult articulation, so much so, at times, that his father could rarely or hardly understand him. His illness continued thirty-four days. My friend, Dr. Dering, attended this case with me, and gave me much valuable counsel. His mother, and a few others of the family, afterwards came down with the same disease. Those who fell sick in the same house all recovered; but some three or four others of the family sickened afterwards with the same fever in Long Island, after returning there to their home by my advice. These, too, recovered, but a maiden lady, an aunt to the young man whose case I have detailed, and two of the colored members of the family residing upon the Island, sickened and died of the same fever.

One of the patients, who fell sick in the same house here, soon after the mother of the young man came down, with the same disease, was an Irish girl, at service. She remained some eight days speechless, and immovable as a block, with stiffened limbs, lying always on her back, the urine and fæces passing off involuntarily, or, rather, unconsciously. Some portion of the time she was unable to swallow even water. She, however, slowly recovered in about four weeks. Her breathing was less embarrassed than in some of the other cases, and I took care not to disturb it with too frequent or liberal means of medication. In this I acted in accordance with the advice of an old medical friend, who jocosely said that his patients all died "because they would not breathe." This may, perhaps, be a new pathological revelation to some of us.

It may be asked, what medicines I used in these cases? I answer, none worthy of notice; for I allowed the *vis medicatrix naturæ* to do the work of recovery, only now and then aiding her with courage and patience. Mine was a course of non-medication, in the view of some members who have more faith than I have in their necessity or efficacy.

Really I cannot say any thing satisfactory to such members in favor of my practice. I must say, however, that I gave no cathartics, and only in a few instances advised an emetic.

Wine, sparingly administered, with other supporting means, were used in most of the cases; and I am of the opinion that my system of tee-totalism would hardly have saved them from sinking.

We are obtaining new revelations, every now and then, as we examine honestly and carefully the great volume of Nature. We may be said to be "born again" every few years; and a medical man, I think, is not fully born and grown up to full manhood, philosophically and medically considered, until he attains the age of fifty. Medical, like political bigots and fanatics, have but one birth, and that often premature and fruitless. Now, the more I see of the human economy, in health and disease, the more highly I appreciate its restorative powers. And if I have obtained any share of success in my management of diseases, I am free to give her the credit, and only claim the merit of having had some wisdom, in thus trusting and simply aiding her when she required assistance.

It may be expected that I should say something of the much dreaded cholera; but, as I had no well-marked cases of that disease, or if I had, my inexperience, or the recovery of my patients, would not allow me to give them that name, I have, therefore, little or nothing to communicate in relation to that matter. Possibly I may have forgotten some of the true characters of that disease since its appearance in our city in 1832, when I was its Health Officer. As I saw none of the cases in which it is said, and no doubt truly, to have occurred in our city, I cannot say a word as to their character, or means of treatment.

In conclusion, let me remark that we are assembled where the first meeting of our Society took place, in July, 1806, nearly 49 years ago, just after the passage of the first important legislative enactment regulating, in our State, the practice of Physic and Surgery.

The names of members who convened on that occasion are found in our book of minutes.*

Who now of that number remain in our "rank and file"? Half a century cuts down a whole generation. Where will be found the three, now marching onward through the journey of life, in 1860? Gone to their long home!

But these are sad thoughts, and I turn from the subject to express a hope that we will continue to exert ourselves as an association of brothers, and labor, for the future, more earnestly for the good of our race, and the honor and usefulness of our noble profession.

Art. VIII.—*On the Cause, Nature, Cure, and Prevention of Epidemic Cholera.* By M. L. Knapp, M. D., late Professor of Materia Medica, and President of the College of Physicians and Surgeons of the University of Iowa; late Professor of Obstetrics and Diseases of Women and Children, in Rush Medical College; Author of "Lectures on the Science of Life Insurance," etc., etc.

[Continued from page 111.]

The topography of Pittsburgh is such that the extremest impressions of heat and cold must, inevitably, rest on the city proper. Other things being equal, therefore, Cholera should break out there before either in Birmingham or Alleghany City. The city proper, lying in the forks of the Alleghany and Monongahela rivers, is of the shape of an obtuse heater, or spread fan, with the point southwest. The surface rises to hills, soon, northeastwardly, so that the sun's rays at 2 o'clock, p. m., are direct upon the face of the city. Underneath the hills skirting either river is a narrow strip of low ground, and the strip along the Alleghany, bounding the city on the west, constitutes the fifth ward, and is exposed to the direct rays of the whole afternoon sun and reflection from the cut and quarried hills back of it, heating it like an oven. This ward is populated wholly by the poorer classes and operatives in the iron manufactories. The Cholera was ten to one the most severe and fatal in this ward. Still it raged on the high grounds of the city also, which lack not for direct insolation, and are most reduced in temperature by upward radiation and cooling breezes at night. Alleghany City and also Birmingham are more protected by the hills from the direct rays of the sun than Pittsburgh, and Alleghany City in particular appears to enjoy a further advantage, in its better adaptation to the culture of vegetables and fruits.

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* The names marked thus * are all whom I know to be living, though I believe Alexander Whaley is of that number.

Amos G. Hull, Sewall Hopkins, David Hasbrouck, *Seth Hastings, Jr., Caleb Sampson, Francis Guiteau, Matthew Brown, Jr., Welcome Sayles, Elnathan Judd, Shearman Bartholomew, Marcus Hitchcock, Isaac Weston, Thomas Harturle, *Laurens Hull, Zenas Hutcheson, Alexander Whaley, Morris Shannon, Paul Hutcheson, Jr., Eliphaz Bissell, Seth Capron, Daniel Arby, John Fitch, Enoch Alden, Stephen Preston, *Abba Blair, Thomas G. Hooker, Norton Porter, Seth Hastings, Samuel Frisbee.

Having ascribed the general prevalence of Cholera this season to the exorbitant prices of provisions, I will here present the prices of the Pittsburgh Market, furnished me by Mr. C——, proprietor of the Monongahela House. "Beef, 11 cents per pound; mutton, 8 cents per pound; lamb, 75 cents per quarter; chickens, 31 to 50 cents per pair; butter, 45 to 75 cents per pound; eggs, 14 to 20 cents per dozen; Irish potatoes, $2 50 to $3 00 per bushel; sweet, or Carolina potatoes, $2 50 per bushel; tomatos, all very bad, $1 50 to $2 00 per bushel; corn (roasting ears), 25 cents per dozen; onions, $1 25 per bushel; turnips, none in market; apples, $1 50 per bushel. Large quantities of diseased potatoes were sold in market just before the breaking out of Cholera, at $1 25 per bushel. Vegetables generally have been poor."

I visited the Markets on the morning of the 26th, and passed through two large and commodious Houses, well supplied with choice meats, but not a potato, turnip, tomato, or other succulent vegetable, apple, peach, or other fruit of any description whatever, on sale or to be seen at either Market! This is a more forcible commentary on the power and influence of medical opinion for evil than could have been anticipated. It shows very clearly that the prohibition of vegetables and fruits has not been over-estimated by the writer as an unfortunate blunder of the Profession, protracting and aggravating every epidemic visitation of the disease.

Case 1.—Monday, September 25, 9 o'clock, A. M., through the courtesy of the Board of Health, visited, with Dr. ———, a middle-aged German woman in the fifth ward, in the collapsed stage of Cholera, the patient speechless, pulseless, senseless, and cold as in death. The case had had no treatment. On examining the mouth, the objective signs of scorbutus were found most unequivocally manifest in a puffy and livid condition of the gums, pale flabby tongue, especially towards the edges, which bore the impressions of the teeth. This was considered a hopeless case, but the punch, with quinine and morphine added, was prescribed, as the patient was not past swallowing. The case terminated fatally in a few hours, and was only instructive as affording testimony of the presence of the scorbutic diathesis in the patient.

On examination of the other members of this family, six in number, all showed the objective signs of scurvy in different degrees, by the crimson line along the dental margin of their gums, tongues furred centrally, and pale and smooth laterally, paleness of countenance, inertia of feelings, despondency and dejection of spirits. One suckling woman, in particular, exhibited the signs of the scorbutic diathesis most prominently of all. They were enjoined to drink punch daily, and to make a free use of vegetables and fruits in their dietary.

CASE 2.—Mrs. O'Connell, a young married Irish woman, living in Miltenberger's Alley, was visited at half-past 9 o'clock, A. M. She had had a diarrhœa of two days' standing, which she described as being of characteristic rice-water appearance, and frequent—had vomited a few times only since having thrown off from the stomach, at about 1 o'clock at night, the meats she had eaten for her supper, in a sour, undigested state. Her constitution seemed unimpaired. She was sitting up, but complained of sinking, and great weakness. The pulse was feeble, the skin cool and dry, and the countenance pale.

On looking into this patient's mouth, the most perfectly displayed *early* characteristic signs of scorbutus presented, that it has ever fallen to my lot to witness. The mucous membrane of the entire mouth was pale, the tongue furred centrally, and pale and smooth laterally, the gums *pale* and *contracted*, save and except the most vivid *crimson*, I should say almost *vermilion line*, of less than the sixteenth of an inch in breadth, ornamented their dental margin, inside and out, festooned around every tooth, and the teeth all perfect in each jaw. These characteristic signs of the scorbutic diathesis were examined by Dr. ——, who visited the case with me. The following prescription was made:

℞.—Acid. cit. ʒi.
Quinæ Disulph. gr. v.
Morphiæ Sulph. gr. j.
Spt. Vin. Gal. ℥ iv.
Sacch. Alb. ℥ i.
Aquæ. Oij. m. f. sol.

S. Take a wineglassful every fifteen or twenty minutes, according to the urgency of the diarrhœa and vomiting.

The patient was ordered to keep her bed, and to have a pot of soup made by boiling a cut of fresh beef-steak, potatos, turnips, onions, carrots, etc., together, flavored with savory herbs, and well seasoned with salt and cayenne pepper. This to be partaken of freely, and as hot as it could be supped, at the earliest moment it could be prepared. At 12 o'clock, M., the patient was visited again: she had followed directions, had taken the medicine several times, and supped a small bowl of soup. All disposition to vomit had ceased—the diarrhœa was much less urgent, and although no reaction was yet apparent, it was evident the case was doing well. Medicine and soup to be continued. At 2 o'clock, P. M., saw the patient again, and found her in a gentle glow; the skin soft and moist, the pulse full, the diarrhœa entirely checked, and feelings of perfect ease and general comfort were manifested by the patient.

At 9 o'clock on the following morning visited the the patient again, in company with the physician in ordinary, and found her up and making her bed, feeling well. She expressed the greatest joy in being allowed the free use of vegetables and fruits. On examining the mouth, the crimson line at the margin of the gums was greatly faded. The husband and an unmarried sister of the patient exhibited none of the objective signs of scorbutus.

Case 3.—Passing up Smithfield street, saw a young man in an alley vomiting. Took him to the office of the Board of Health near, and examined his mouth with Dr. ——; find it in a very scorbutic state—tongue furrowed centrally, pale laterally, and *the gums puffy and livid all over.* He has had diarrhœa two days, and has taken two or three glasses of brandy this morning to check it—is partially inebriated. He refuses to take medicine if prescribed, finally consents to take a glass of soda water and suck a lemon. This case not seen afterward, and is only presented as disclosing the objective signs of scurvy in cholerine.

On the morning of the 26th, I repaired to the Mercy Hospital, bearing a note from the Rt. Rev. Dr. ——, desiring that I might be facilitated in making medical investigations in the Institution. Every facility was thus obtained, and marked civilities shown me by the Sisters of Mercy, and the visiting physician, (no resident physician then in the Hospital) who arrived soon, and went his morning round, giving me a hurried history of the cases in the Cholera ward, and leaving me to investigate them at my leisure. My views of the nature of Cholera were briefly explained to the physician before he left the house, with the request that he would make observations, and test the value of antiscorbutic treatment. Five consecutive hours were then spent in examining the following cases, comprising *all* the Cholera patients in the Hospital under treatment, and one in the convalescent ward. All the cases were admitted under fully developed Cholera, bordering on, if not in collapse, as per the testimony of the physician.

CASE 4.—Cornelius Shanahan, aged 20, admitted a week since, now convalescent, mercurial odor present—the gums are spongy, swollen, and livid all over—petechiæ, in the early or efflorescent stage, sparsely scattered over the sides of the neck and arms—skin on the outer sides of the arms and legs, and also the palms of the hands, covered with white furfuraceous scurf—the lividity and swollen condition of the gums far exceed that which should result from the slight ptyalism present—no salivation or spitting—patient says he has eaten little or no vegetable food this season.

CASE 5.—Mrs. Mary McStay, aged 28, has an infant at the breast, attacked two days since, admitted yesterday—four cases of Cholera occurred in the house where she boarded—thinks there was a reasonable supply of vegetable food—dejections not watery or copious, and no vomiting—patient not emaciated—not much Cholera aspect in this case—no mercurial odor. It should be observed that the treatment of the Cholera cases is routine—all the patients are put under the administration of two grains of calomel, combined with opium, quinine, and capsicum, every two hours, or until vomiting and purging cease. Of course the appearances in this patient's mouth are not modified by the effects of mercury, having been less than one day under treatment. On inspecting the mouth, I find the tongue coated with yellowish-white fur, and the sides red and granular-looking, or rough—there is an intensely red line along the dental margin of the gums, and they are beginning to assume a red and softened appearance all over—no petechiæ or abnormal appearances on the skin. A bilious-cholera-scurvy case, lactation aiding its development, and a panic bringing it forth too soon.

CASE 6.—Louisa Hines, aged 17, admitted a week since—is from the County Jail; which, it appears, is made use of as a Penitentiary, *alias*, House of Starvation, where she had been confined three months on bread and water, and soup twice a week, the Jail fare—no potatoes, turnips, cabbages, or other vegetables, nor fruits of any description allowed! The cholera, of course, broke out in this prison, and a general jail delivery ensued. Many of the cases came to the Mercy

Hospital, and Louisa is one of three only that remain alive! The prison is certainly a disgrace to the City, County, and State. The constitution of this patient is sound—the skin is normal, and, save paleness of countenance, and the *scorbutic crimson line* tied around the teeth, this patient appears, otherwise, all right. There is no ptyalism or mercurial odor—the gums are *pale and contracted*, except at their dental margins, and the mucous membrane of the mouth generally is very pale. These appearances are *pathognomonic* of scurvy.

Case 7.—Mary Anne Groff, an old German woman, but a few weeks in America—husband and son have died of cholera in this epidemic. This old lady has only two teeth in her mouth, her system is not in the least affected by mercury, but the gums surrounding her two teeth are puffed up fully a quarter of an inch thick—the rim of the edentulous gums is normal—the tongue is furred on the centre of the dorsum, and very pale and flabby laterally—skin dry and scurfy—red petechiæ on both legs, and discolorations of fading purpura all over the calves—many minute red petechiæ on arms, and sking enerally.

Case 8.—Mrs. Myers, aged 45, a butcher's wife—husband has had Cholera, and is now in the convalescent ward. This patient is corpulent (as a butcher's wife should be), and insensible from congestion of the brain—under treatment six days—no ptyalism or mercurial odor—gums swollen and puffed up half as thick as my finger, and livid as a piece of liver—skin all over the body, especially limbs and back, besprinkled and bespattered with petechiæ, and bloody chops, which ramify extensively in zigzag bundles and fantastic spangles and clusters, interspersed with large ecchymoses or patches of purpura. In numerous places the blood has oozed through the chops or cracks, and can be scratched off with the nail in the form of dried blood-scabs. The purpura patches, or ecchymoses, on this patient's legs, are as large as my hand, and of bacon-rind or mummified appearance. Here is scurvy in a fat subject produced by meat eating; and when the serum of the blood was leaking through the chops in the mucous tissue of the stomach and bowels, and being vomited and purged off, it was a case of Cholera.

Case 9.—Isabella Merritt, aged 25—the dietary of this patient has been bread, meat, and coffee, generally—seldom eats any vegetables—has had excessive palpitation of the heart and weakness for a year—has not eaten any vegetables or fruits of any description for more than three months past, except cabbage on two occasions—breath betrays the mercurial odor, and her mouth generally, and swollen, livid gums, in particular, give indubitable evidence of the scorbutic diathesis—no petechiæ.

Case 10.—Mary Ellen Daily, aged 25—admitted three days since—has had diarrhœa since early in August—mucous membrane of the mouth chopped and excoriated in patches—gums display the crimson line along the dental margin, but are not yet puffy—recent petechiæ of every size, from mustard seed to buck shot, are scattered over limbs, face, and body—the petechiæ are perfectly round, not raised or papillated, and not capable of being felt by the touch—they are pale crimson, disappear under pressure of the finger, and return instantly on removal of the pressure—no mercurial odor of the breath—tongue getting dry, with tendency to coma, or typhoid symptoms.

Case 11.—Edward McDowell, aged 28—admitted a week since—is from the jail—was an inmate of the prison fourteen months—has had diarrhœa since February—dietary of the prison, bread and water, and soup twice a week, Wednesdays and Saturdays, but patient seldom partook of the soup, finding it produced an aggravation of the diarrhœa—an affection of the heart came on after being in the jail five months, which has troubled him greatly ever since—has had great irritation of the throat since February—has picked out five or six of his teeth since April with his fingers—mouth displays the objective signs of scurvy in an eminent degree—there is great pallor of countenance and a universally anæmic appearance—there are numerous petechiæ on the skin, and the back is mottled with walnut-colored marks of desquamated bullæ of the size of buck shot and rifle balls, too numerous to count, the epidermis hanging to some of them. In June and July the patient had bloody discharges from the bowels, in May and June vertigo and palpitation were most distressing. The authorities by which the Pittsburgh jail is upheld are entitled to a premium for this, the "best" case of Cholera seen.

Case 12.—James Hall, aged 20—admitted two days since—has worked all summer in a brick-yard—has had no potatoes or turnips at all for four weeks, and none, indeed, worth mentioning for four months—pork and beef, and bread and coffee have constituted his dietary. Skin dry, scurfy, scaly or furfuraceous, particularly on the extremities—gums very much puffed up or swelled, and livid as liver—tongue clean and flabby—countenance pale—no petechiæ to be seen on legs or arms, back not examined—no odor of salivation—sound, with the exception of scurvy.

Case 13.—Wm. Campbell, of middle age—admitted on yesterday—insensible from congestion of brain and I can gain no information as to his mode of life—gums very red and swollen—petechiæ in their red stage sparsely scattered over the limbs and body—no Cholera symptoms present—moaning and jactitation and deep sighing—eyes inflamed—face red—has probably been a hard drinker.

CASE 14.—John Tammany, aged 28—admitted three days since —has had an ague this (Tuesday) morning, and is now in the sweating stage—no Cholera symptoms present—has worked in an iron furnace in Ohio, this season, where all around him had ague and fever—came to Pittsburgh a week since, but had not had a chill for four weeks—wrought one day in Pittsburgh, and on the next day, which was Saturday last, was taken with a chill and vomiting and purging, and was brought to the hospital—says he had good diet in Ohio, meat and potatoes, etc., but not much vegetable food during May, June, and July—in July sickened of bilious fever—has had an extensive and troublesome eruption of sores all over his legs, which leaves the skin marbled, and of a dark chocolate or slate color wherever there has been a sore—a cicatrix of large size on one leg, is dark walnut color, or bacon-rind appearance—there are a few petechiæ or flea-bite specks sparsely scattered over his arms, say a dozen on each, well marked—the gums are swollen and livid all over—countenance very pale—no mercurial odor—the objective signs of scorbutus, and the symptoms of a quartan ague are all the morbid phenomena that are left of this case of Cholera.

CASE 15.—Thomas Clennin, aged 30—admitted two days since, or on Sunday—felt sick on Saturday while traveling on foot from Washington, Pa.,—thinks he has eaten of new potatoes a few times since they came in, but for five months has lived on ham, eggs, beef, bread and coffee—mercurial odor in his breath—has lost most of his teeth and also his palate, which he says occurred five years ago from medical treatment in Baltimore; under mercurial salivation his teeth came out and his palate sloughed off! The gums surrounding the teeth that remain in this patient's jaws are very puffy and livid—tongue pale and flabby—no petechiæ are visible on arms or legs, back not inspected. A very much broken-down subject—doubtless had scurvy when he suffered the loss of his teeth and palate—says he never had the venereal disease—scurvy and mercury are all that ail him now.

CASE 16.—James T. Parsons, aged 32—admitted a week since —came from the jail—was three months there—mouth modified by treatment—tongue red and clean—gums very much swollen and livid and blood oozes from their dental margins on slight pressure of the finger—breath fœtid, but odor not mercurial—numerous crimson colored petechiæ are scattered over his face, neck and arms, and some of them are papillated to the touch—large blotches of purpura on the arms.

Case 17.—John Donohue, of middle age—admitted on Friday last—choleraic symptoms mild from the first, and soon disappeared—at present there is a universally icteric state—tongue furred in the centre and pale laterally—gums very red and puffy—no mercurial odor—no petechiæ on arms or legs—back not inspected. Jaundice and scurvy are all that are visible, and the former is not more characterized by the pathognomony of the skin, than the latter of the gums.

Case 18.—George Brandstatter, a German immigrant of about 50 years of age, just arrived in this country—admitted on yesterday—objective signs of scurvy very prominent in this patient's mouth, as seen in the livid spongy gums, and pale flabby tongue—no petechiæ on arms or legs, back not inspected. This patient is vomiting and purging still, and is sinking rapidly into the stage of collapse—would be gratified to put him under the administration of the hot punch and hot soups, or the rational treatment, to staunch the hemorrhage and afford materials for new and healthy blood, but cannot interfere.

I must here pay a merited tribute to the Choir Sisters who officiate in this hospital. One or other of the three, all evidencing the highest order of intelligence, insists on accompanying me at the bed of every patient, to give the history of the cases, uncover the limbs and back for inspection, and in every way facilitate my investigations. In some instances, as with this patient, it would be impossible to effect my object without this kind assistance, so fearlessly rendered over these repulsive cases.

Case 19.—John Wheely, aged 21—a German immigrant just arrived—admitted on yesterday—still vomiting and purging—gums very red and puffy all over—tongue furred centrally and pale laterally—no petechiæ discernible.

Case 20.—C. J. Smith, a young man from New York—admitted over a week since—he is now in the convalescent ward, having surmounted the hemorrhagic tendency of the disease that gives rise to vomiting and purging, yet is in no other sense cured—his gums are frightfully abnormal in appearance—look as if beaten and bruised and puffed up from the injury—the tongue is clean and red, the mouth throughout modified by treatment—general appearance very anæmic. The dietary allowed the convalescents is milk and bread, and soups, with rice, but without succulent vegetables. This young man came to Pittsburgh about two months since, and has hardly partaken of any succulent vegetable food since he arrived here. Several other convalescent Cholera patients whom I have examined in this ward, exhibit the same objective signs of scorbutus in an eminent degree, and their history prior to admission discloses the same absence of succulent vegetable food in their dietary. It is unnecessary to detail these cases.

The analysis of twenty cases of Cholera, then, discloses the fact, that every case was a case of scurvy, not a solitary exception, in, or out of the hospital, comprising *all* seen. This is a remarkable announcement; nevertheless, remarkable as it may seem, every word of it is truth. Had not the physical evidences of scurvy been present in *every* case, I should have marveled. The appearances which I have described will be found in all cases of true Cholera, and will henceforth be noticed by all practitioners in all parts of the world. Why they have been so long overlooked, why they should have escaped my observation heretofore, *generally*, and, where noticed in 1849 and '50, a complication of diseases only should have been inferred, is a matter of as much astonishment to me as it can possibly be to others: but such are the facts. Why I have now been made the humble instrument of explaining the matter, is doubtless due to circumstances rather than to extraordinary penetration, or superior professional attainments. It has been a hard and difficult task to divest my mind of the false notion of some specific, poisonous influence, *overlaying* scurvy, even since I have been fully aware of the scorbutic diathesis *underlaying* Cholera. It may be difficult for others, even yet, to see clearly: but if, as appears by our analysis, every case of Cholera occurs in a scorbutic subject, or in other words, that Cholera is a messenger of death riding *always* on the time-honored steed scorbutus, it matters but little what be the theory as to the office or entity of the messenger—if we destroy the steed, the rider will get on but poorly. This we know how to do. But I can see no occasion now to search for further cause of Cholera than the causes producing scurvy, no phenomena in Cholera other than what harmonize with the known laws of scurvy, and nothing at the bed-side after the hemorrhagic action is arrested but the physical evidences of scurvy, neither do the books describe any anatomical lesions contradictory to this view.

In conclusion, if I have not explained every thing pertaining to the subject in this brief monograph, I have given the key that will explain every thing when the laws of scurvy shall be perfectly understood, and it is a consoling reflection that nations, cities, and families can hereafter enjoy protection or immunity from the scourge of epidemic Cholera, by simply conforming to the natural laws in regard to diet. The proofs presented, that Cholera is a modified form of scorbutus, are as strong as physical proofs can be, or as strong as inductive reasoning can present; as strong as that the sun is the centre of the solar system, and that the earth and the other planets revolve around it: all the phenomena admit of explanation by the theory—the theory tested by practice proves effectual. *Why* scurvy is thus modified, (it always was a Proteus,) has constituted no part of these researches. This will be a subject for further reflection with the writer. The laws of scurvy have yet to be investigated by modern observations, researches, and statistics. The scorbutic diathesis may yet be found to hold a more special relation to *all the zymotic diseases* than has heretofore been suspected. Medical meteorology, or the constitution of the seasons, (abridgment of the crops and fruits by blights,) holds a direct relation with the state of the public hygiene; and it is to this *tangible* cause of disease, and not to an imaginary *malaria*, that we are to turn in search of the laws governing epidemics. With a rational pathology, treatment, and prevention made known, Cholera is divested of all its terrors. Sanitary regulations can now be instituted that shall meet its invasions at the very threshold, in ship, camp, or city, and the public mind be so indoctrinated by suitable publications on the subject, that every family may know in what constitutes its safety; in fine, the true philosophy so disseminated that the wayfaring man, though a fool, need not err therein.

PART SECOND.

CRITICAL ANALYSIS.

ART. IX.—*A Practical Treatise on Foreign Bodies in the Air-passages.* By S. D. GROSS, M. D., Professor of Surgery in the University of Louisville; Member of the American Philosophical Society; Author of "Elements of Pathological Anatomy," "A Treatise on the Diseases of the Urinary Organs," etc., etc. With illustrations. Philadelphia: Blanchard & Lea, 1854. 8vo., pp. 468.

WE have been repeatedly assured, by the leading medical publishers of this country, that they find no class of works so unprofitable as those devoted to specialities. "Compendiums," "Vade Mecums," as a general rule, meet with an extensive sale, and hence the greater frequency with which they are presented to our notice. Practitioners may plead, as an excuse, their want of leisure to peruse more elaborate treatises, but, however satisfactory this may prove to their own consciences, it can but feebly atone for the loss of patients, who, with a knowledge to be derived only from such treatises, might have been rescued from death. We have been strikingly impressed with this view of the subject, by the perusal of the volume before us. After alluding to the defects of systematic works on surgery, in regard to the facts which form the basis of the present work, and to the sources from which those here collected have been derived, our author remarks:

> If, in the providence of God, the work shall be instrumental in saving the life of one human being, or even in ameliorating the suffering of a single individual, I shall feel myself amply remunerated for the time and toil bestowed upon its composition. If there be any situation better calculated than another to awaken our sympathy, it is when we see before us a fellow-creature who is threatened, every instant, with destruction, in consequence of the lodgment of a foreign body in the air-passages, without the ability to expel it, or the power to inflate his lungs. It was this reflection which first induced me, many years ago, to turn my attention to the subject, and which has finally impelled me to write this treatise.

His design, originally, was not to write a book, but to compose a short monograph for some medical journal. This imperfect idea of his task, however, was soon dissipated, and he found, to do it any thing like justice, it was necessary to devote to it much time and study. The result is now before us, and "whatever judgment may be pronounced upon it, I trust that I may be awarded at least some credit for my effort to improve a most interesting, and, hitherto, a most neglected department of surgical pathology and practice."

Chapter I., embracing some fifty-five pages, is devoted to general considerations on the nature of foreign bodies that may enter the air-passages; the alterations they may undergo in these passages; their situation, manner of entrance, and of expulsion. These substances he has arranged into different classes, according to the nature of their composition, as the vegetable, animal, mineral, and mixed. Under each of these heads, of course, an almost infinite variety may be found, from a melon seed, or half-sovereign piece, to the jaw-bone of a mackerel, or larnyx of a goose. Several foreign substances may occasionally enter the air-tubes, either simultaneously or successively,—an instance of the latter having occurred in the practice of our author. Foreign bodies, of a vegetable or animal nature, under the joint influence of the heat and moisture of the surface with which they lie in contact, may become so expanded as to seriously embarrass the surgeon in his attempts to extract them. If lodged in the bronchial tubes, they may become incrusted with various kinds of matter, as, for example, inspissated mucus, lymph, and earthy substance, the latter generally consisting principally of carbonate and phosphate of lime, cemented by a little animal matter.

Our author refers to the absurd notions entertained by some practitioners, respecting the softening power of the air-passages on these substances.

> Such notions, for they are nothing else, might be dismissed with a smile, if it were not for the mischievous tendency which they are calculated to produce in the minds of the thoughtless and unwary. We might as well wait for the softening and disintegration of the rock of Gibraltar by the waters of the Atlantic and Mediterranean, as for the softening and disintegration of a persimmon stone, and a piece of gristle, by the heat and moisture of the air-passages.

That this process may, however, sometimes occur, and the foreign body be ejected in separate fragments, or *en masse*, we may learn from the cases reported by our author himself. But *to trust* to so remote a contingency, would, indeed, be most culpable.

Professor Gross has taken special pains to examine the facts which bear upon the question, as to the *relative frequency* of the situation of foreign bodies in different portions of the air-passages, and has satisfied himself that the prevalent opinion, that they more frequently lodge in the right bronchial tube, is well founded. He awards to Mr. Goodall, of Dublin, the credit of having first furnished us with the true explanation of the cause of this circumstance. This is not, as was, until recently, supposed, owing to the difference in the diameter, length, and direction of the two tubes, but depends upon the peculiar position and arrangement of the septum at the root of the trachea. This septum is situated to the left of the mesian plane; hence, the foreign body, in its descent, by striking it, is pushed over towards the right side, and its entrance is still further favored by the greater diameter of the right bronchial tube. A wood-cut is given, to afford us a more perfect idea of the arrangement to which we have alluded.

We pass over Chapters II. and III., which are devoted to the consideration of the immediate pathological effects of foreign bodies, and which contain information of an interesting and practical character.

Chapter IV. treats of the symptoms of foreign bodies. The distressing nature of these is familiar to all; but cases now and then occur, in which there is an *absence* of symptoms, or they are of such an equivocal nature as to perplex the most experienced practitioner. Even Sir Benjamin Brodie, in one case, expressed the opinion that the affection was merely a chronic cough, from which recovery might soon take place! Mr. Renauldin found a fragment of a nail in the lung, and yet during life no symptoms denotive of its presence had existed. In some instances, the profuse and purulent character of the expectoration may lead to the suspicion of the existence of pulmonary phthisis, which is likely to be still more confirmed by the emaciation and exhaustion which follow. But we can only glance at the contents of this chapter, in which the whole question is examined in its minutest details.

In the next chapter we find some general observations on the *diagnosis* of foreign bodies. After remarking that, occasionally, the most thorough examination of the patient and the most minute inquiry into the history of the case fail to afford the requisite light for the formation of a correct opinion, he adds:

> The rule, in all cases of this kind, is to act in the most prompt and efficient manner, on the well-known principle that, although the foreign body may not immediately prove fatal, yet the longer it is retained in the parts, the greater will be the probability that it will ultimately destroy the patient, by keeping up an amount of irritation, the effects of which the respiratory apparatus and the system at large cannot, permanently resist.

Auscultation and percussion, though frequently affording important information, do not always enable us to detect the true nature of the difficulty. In the memorable case of Mr. Brunel, these means completely failed; and our author has collected numerous other examples, bearing upon the same point.

Nor is it always possible to determine whether the offending substance is in the larynx, or some other portion of the windpipe. After a careful examination of this question, Professor Gross remarks:

> From the above cases, few as they are, and imperfectly acquainted as we are with their histories, we may, nevertheless, conclude, as a general rule, that whenever there is aphonia, whether partial or complete, the foreign body is situated in the larynx; at all events, there is a strong probability that this is the case; a probability which is converted into perfect certainty, if, conjoined with this symptom, there is pain, soreness, or uneasiness in the region of the larynx, along with dyspnœa, a whistling sound in respiration, absence of serious disease in the bronchial tubes and lungs, and inability, on the part of the observer, to perceive the offending body moving up and down the trachea.

The voice, however, may be seriously affected, and yet the foreign body not be lodged in the larynx. In the case where Mr. Liston removed a piece of bone impacted in the right bronchial tube, dyspnœa, noisy and stridulous breathing, were among the prominent symptoms. In that of the child which was brought to Dupuytren, on the fifth day after inhaling a bean, there was complete aphonia, although the substance was perceived playing up and down the trachea, from which it was removed by an operation.

When the foreign body descends from the larnyx, it is usually arrested in one of the bronchial tubes, by which the respiratory murmur in the corresponding lung is generally more or less affected. Percussion frequently elicits an unnaturally clear and resonant sound, as in pulmonary emphysema. Professor Gross is of the opinion that we have no means of positively determining when the offending substance is permanently arrested in the trachea.

> The number of such accidents is exceedingly limited, and the phenomena attending them have not been studied with sufficient accuracy to justify us in deducing from them any special conclusions. Mr. Cæsar Hawkins,* of London, has attempted to prove, by the citation of several cases, amongst others, by one occurring in his own practice, that when the extraneous substance is lodged high up in the trachea, or partly in the trachea and partly in the larynx, the nature of the

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* *Medico-Chir. Trans. of London,* vol. xiii., p. 105, 1840.

affection will be evinced by the entire absence of cough, by the integrity of the voice, by the constant whistling sound in respiration, by the fixed soreness, pain, or uneasiness at the seat of the obstruction, and by the ability of the patient to laugh, speak, and eat, as if nothing had happened. . . . Although the foreign substance, in several of the instances herein analyzed, was permanently arrested in the trachea, yet, inasmuch as no definite statement is given of the symptoms in any of them, no use can be made of them in illustration of the present topic. I have presented a faithful outline of the facts adduced by Mr. Hawkins, in order that the reader may be able to draw his own conclusions. They are certainly entitled to attentive consideration; but whether they warrant the opinion which he has based upon them, is a question that can be determined only by future and more extended observation.

Chapter VI. treats of the spontaneous expulsion of foreign bodies, and under this head a number of curious and interesting cases has been collected, which were followed by recovery. The examples of the spontaneous expulsion of pieces of coin are rare, and but one is mentioned in the table. Dr. Geoghegan has reported another, in the *Dublin Medical Press*, Oct. 11, 1854.

Nails are mentioned in four of the cases in the table. Dr. Watson, of London, and Drs. Brown and J. Mason Warren, of New England, have reported cases of spontaneous ejection of carpet tacks; and in the *Montreal Medical Chronicle*, October, 1854, Dr. Crawford, of the McGill College, has reported another example, in which the tack was expelled after remaining in the trachea for nineteen days.

A statistical table is given, containing forty-nine cases of the spontaneous expulsion of foreign bodies from the trachea, in which recovery followed. These cases are afterwards detailed in full. Another table is given, containing eight cases of spontaneous expulsion, followed by death. A complete account of each of these is also presented.

We have neither time nor space to dwell upon the medical treatment in these cases. Although the foreign body has been occasionally expelled by means of emetics, sternutatories, inhalation of iodine, etc., etc., yet they are worthy of but little reliance.

Of late, inversion of the body has been not unfrequently employed by some of the most distinguished European and American surgeons. It is liable to one serious objection, viz.: it may cause the suffocation of the patient by exciting spasm of the glottis. This may be guarded against, by bronchotomy, as was practiced by Sir Benjamin Brodie, in the case of Mr. Brunel. Unsuccessful cases, of inversion alone, have been reported by Dr. J. Mason Warren, Professor Eve, Dr. Hoyt, Mr. Luke, Bransby B. Cooper, Dr. O'Reilly and others. An abstrac of these cases is furnished by our author.

We have now reached the most important part of Professor Gross's Treatise, viz.: *The surgical treatment of foreign bodies in the air-passages.* The cases are exceptional in which the methods already noticed have proved successful, and while the extraneous substance remains in the windpipe, the patient is in constant danger of suffocation, or of perishing from inflammation and its consequences.

The proper practice, therefore, is, in all cases, without exception, to perform bronchotomy as soon as possible after the occurrence of the accident. The artificial aperture effectually prevents spasm of the muscles of the larynx, and thus enables the patient to breathe with greater freedom, at the same time that it permits the foreign body, if it do not escape at once, to play up and down the air-tubes with comparative impunity. In many cases, however, the foreign substance is expelled as soon as the windpipe has been properly opened, being often projected to a considerable distance from the patient's body. In general, it escapes at the artificial orifice, but sometimes it passes through the glottis, and is either expelled by the mouth, or it descends into the stomach. The ejection is occasionally delayed for days, weeks, and even months after the operation, and even after the closure of the wound. Under such circumstances, a second and even a third operation may become necessary, as in several of the cases mentioned in this treatise.

The history of bronchotomy is preceded by some very interesting anatomical and physiological considerations of the parts involved in the operation. Our author has made some experiments on animals, to ascertain the influence of chloroform upon the sensibility of the different portions of the air-tubes. "As I had been led to anticipate from my observations upon the human subject, every particle of feeling seemed to be destroyed, and the probe could be pushed freely up and down the passages without exciting the slightest uneasiness. In fact, the animal seemed to be wholly unconscious of what I was doing, even when the instrument was carried most rudely into the larynx up into the fauces."

Professor Gross is of the opinion that, if it be possible to employ tracheotomy, the larynx should seldom be opened, on account of the difficulty in the diagnosis of foreign bodies in this portion of the air-tubes. An opening midway, or nearly midway, between the sternum and the larynx, places the operator in sufficient proximity with each extremity of the canal, and affords him every possible facility in extracting the foreign body, no matter what its situation. In the operation, if it be found impracticable to avoid the division of the isthmus of the thyroid gland, serious hemorrhage may be avoided by embracing the part in two ligatures, and then carrying the knife between them. In the report of the case of spontaneous expulsion of a coin, as given by Dr. Geoghegan in the *Dublin Medical Press*, Oct. 11, 1854, this gentleman states, that he has found that the division of the isthmus of the thyroid body is not necessarily accompanied by hemorrhage, unless there exist disease of the gland itself.

Professor Gross considers the use of a canula after the operation highly objectionable.

It is difficult to perceive the philosophy of a practice, the inevitable effect of which must be to prevent the ejection of the foreign substance by opposing a mechanical obstacle to its ascent in the windpipe. In using it, the caliber of the trachea must necessarily be materially diminished, and the patient compelled to breathe through one opening instead of two, as when the parts are left to themselves. Again, if the canula be employed to arrest hemorrhage by compressing the edges of the wound, that end may be quite as readily and as advantageously attained by the use of the blunt-hook hereafter described. Considering that the object of the operation is the expulsion of the offending body, nothing should be done after it has been performed to delay, much less to prevent, so desirable an event. On the contrary, every effort, consistent with the patient's safety, should be made to promote it; and for this purpose the wound, as was before stated, should be maintained in as free and unembarrassed a condition as possible.

The use of chloroform in this operation, he remarks, cannot be too warmly praised. He recommends its administration not only during the operation, but during the extraction of the foreign body, with the view of controlling cough and spasm of the windpipe, which often most seriously embarrass our proceedings.

Most valuable instruction is given us as to the best methods of extracting the foreign body, and numerous illustrations are furnished of the different instruments employed for this purpose, as well as of those to which he gives the preference.

The difficulties and dangers of the operation are next most ably considered. Of these, hemorrhage is most to be apprehended. In laryngotomy, of course, this risk is slight; but in tracheotomy it has proved fatal in the hands of the most eminent surgeons. The various sources from which it may proceed are fully discussed, and wood-cuts given to show the anomalous branches found in the tracheal region.

Our author offers many judicious remarks respecting the dressing and after-treatment, observing at the same time that they may appear to some trivial, if not useless; but such can place very little estimate upon the results of surgical operations, and the value of human life.

The treatment after the operation, whether followed by the removal of the extraneous body or not, is a matter of paramount importance, and, should, therefore, always receive the special consideration of the professional attendant. The foreign body may have been retained for days before the windpipe is opened; but, even where this has not been the case—where, indeed, it has been expelled, even within a comparatively short period after its introduction—there is always danger of severe inflammation of the lungs and air-tubes; and it is for this reason, that the practitioner should always be on the alert, carefully watching his patient lest the disease, thus awakened, should progress, and finally, before he is conscious of it, gain the ascendancy.

The remaining portion of the volume is devoted to the details of cases in which laryngotomy, tracheotomy, and laryngo-tracheotomy have been followed by the expulsion of the foreign body and the recovery or death of the patient. Several cases are likewise reported in which a repetition of the operation was required, and others, in which no foreign body was found, although the symptoms were strongly denotive of its presence. The work concludes with a chapter on bronchotomy in the inferior animals, and a general summary based on the facts and cases therein collected. Throughout, as we have attempted to show, it abounds with the most valuable practical information, and we venture to assert that no one could have been selected more competent to fulfill the task required than Professor Gross. An indefatigable student, of vast experience, and possessed of a mind preëminently qualified for "arranging, analyzing, and tabulating the isolated and scattered facts of Medicine and Surgery," he has produced, as might have been expected, a volume worthy of his high reputation.

G. C. B.

BIBLIOGRAPHICAL NOTICES.

Art. X.—*Illustrated Manual of Operative Surgery and Surgical Anatomy.* By MM. Ch. Bernard, D. M. P., and Ch. Huette. Edited with notes and additions, and adapted to the use of the American Medical Student, by W. H. Van Buren, M. D., Prof. of Anatomy, Univ. Med. Coll., etc., and C. E. Isaacs, M. D., Demonstrator of Anatomy, Univ. Med. Coll., etc. Illustrated with steel engravings, from drawings after nature, by M. J. Leveille. New York: H. Baillière, 290 Broadway, and 219 Regent street, London. Paris: J. B. Baillière, Rue Hautefeuille. 1855. 8vo. pp. 513.

We have had occasion to notice heretofore the appearance, with short intervals, of the first two parts of the *Illustrated Manual of Operative Surgery*, by Bernard and Huette, edited by Drs. Van Buren and Isaacs, of this city. We now have the pleasure of announcing the publication of the third and concluding part of this splendid work, and its presentation to the profession in one nicely bound and portable volume.

This is incomparably the most beautifully illustrated work ever presented to the American practitioner. It is, indeed, what the editors very properly claim "a complete and concise picture of the science and art of Operative Surgery, in its present advanced and perfected condition." Every instrument, from the simplest to the most complicated, is represented, and the various steps of every form of operation are accurately and vividly delineated. The text contains a concise but accurate description of the various operations pursued or recommended, and the volume being thus left unincumbered with tedious details and speculations, its value as a manual is greatly enhanced. The part borne by the editors is limited, the additions to the text being wisely confined to a few explanatory foot-notes.

The first thirty pages and twenty-five plates are occupied with a description and illustration of the various instruments employed in operative surgery. These embrace every variety of instrument used in incision, ligature of arteries, amputation, exsection of bones, trephining, for the eye and ear, in laryngotomy and tracheotomy, for removal of nasal polypi, in operations about the fauces, pharynx and larynx, intestines, hernia, anus, penis, urethra, vagina, uterus, etc., etc. They are all *modèles Charrière*, and nothing can exceed in delicacy and accuracy the artistic execution of the plates. Following these, we have illustrations of the minor operations, as venesection, closing wounds, etc. The eleven succeeding plates are devoted to the *ligature of arteries.* This portion of the volume, relating to some of the most common and yet important operations in surgery, is exceedingly instructive. The dissections are accurately and extensively drawn, and exhibit as satisfactorily as anything but actual dissection can, the relative anatomy of the parts concerned in each individual case.

The next subject is *amputations;* first, amputations in the contiguity of limbs; second, amputation in the continuity; and third, exsections. Following this, is the operation of *trepanning*, with a representation of the relative position of the intercranial arteries. Operations upon the eye and its appendages are fully and minutely illustrated, as also those upon the ear. No special work on these branches, within the reach of the practitioner, contains nearly so complete a picture of ophthalmic and aural surgery. With equal fidelity we have represented the various operations upon the lips, nasal passages, nose, tongue, tonsils, salivary apparatus, soft palate, æsophagus, trachea, etc. Next, we have pictured the operations on the breast and chest, as removal of the breast, paracentesis of the thorax and pericardium, etc. Then follow operations upon the abdomen, paracentesis abdominis, gastrotomy, opening abscesses of the liver and ovarian cysts, treatment of wounds of the abdomen, intestines, etc.

The operations for hernia, one of the most important divisions of operative surgery, are here displayed with all the reality and accuracy of which art is capable. The surgical anatomy of the parts which these tumors involve, so necessary to be understood by the operator, leaves nothing to be desired as regards illustrations. The remainder of the volume is occupied with operations upon the anus, penis, scrotum, urethra, bladder, and the female genitals, with a section on tenotomy. They embrace artificial anus, hemorrhoids, fistulæ, varicocele, hydrocele, lithotomy, lithotrity, operations upon the uterus, etc.

We feel that it is impossible in the notice of an illustrated work like this to give the reader a just impression of its character. Admitting of neither analysis or review, we are left to express an almost unqualified opinion of our appreciation of the volume, which he may or may not accept as conclusive. We do not hesitate, however, to express the *unqualified* opinion, that this volume surpasses in artistic execution any work on operative surgery ever presented to the profession in this country. Its convenient and portable form, being an ordinary octavo, commends it strongly to the attention of the country surgeon.

For further information in regard to this, as also other works, the reader is referred to the advertising sheet of this Journal.

ART. XI.—*Lectures on Histology, delivered at the Royal College of Surgeons of England in the Session* 1851–2. By JOHN QUEKETT, Professor of Histology. Vol. II. *Structure of the Skeleton of Plants and Invertebrate Animals.* Illustrated by two hundred and sixty-four wood-cuts. London: Hippolyte Baillière, 219 Regent street, and 290 Broadway, New York. 8vo. pp. 413.

THE first volume of Mr. Quekett's *Lectures on Histology* appeared in 1851, and was then made the subject of a brief notice in this Journal. This volume was limited to a description of the principal tissues of vegetables, including three belonging to animals, viz.: simple membrane, fibrous and cellular tissue. The present volume embraces the hard tissues, and is almost wholly occupied with the Rudimentary Skeleton of Invertebrate Animals. These embrace the Sponges. Zoophytes, Mollusca, etc., and of the Articulata, Entozoa, Insecta, etc., etc.

The study of Histology has been prosecuted abroad with a marked degree of enthusiasm, and this science has consequently undergone, within the past few years, a corresponding advancement. In this country, unfortunately, a far less degree of attention has been directed to subjects involving laborious study and minute and long-continued investigations. We deem this state of things unfortunate, because we have among us minds, that, if properly directed during their pupilage, would cultivate these more abstruse studies with a generous enthusiasm, and explore the now uncultivated fields of physical science in this country. The fault rests with our medical schools. These institutions shape and direct the course of medical study, and give bias to the medical mind of our country. And it is gratifying to observe an increasing disposition in our colleges to make their courses of study more thorough, and give more prominence to microscopical studies. The influence of this instruction is already beginning to be perceived, in the increasing demand for instruments and text-books on microscopy.

To the class of students who are advancing in the study of microscopical science the *Lectures* of Mr. Quekett are of great value. The style is clear, the objects observed are, many of them at least, easily procured, and the illustrations are numerous and excellent. No work has recently appeared more deserving the attention of the student of natural and medical science.

Art. XII.—*The Principles and Practice of Obstetric Medicine and Surgery, in reference to the Process of Parturition; with sixty-four Plates and numerous Wood-Cuts.* By Francis Ramsbotham, M. D., Fellow of the Royal College of Physicians, London, Obstetric Physician to the London Hospital, etc., etc. A new American Edition, revised by the Author. With Notes and Additions, by William V. Keating, M. D., A. M., Lecturer on Obstetrics and Diseases of Women in the Philadelphia Medical Association, etc., etc. Philadelphia: Blanchard & Lea. 1855. 8vo. pp. 648.

An interesting feature in the history of this work is the appearance of a new American edition, prepared expressly by the author, without a corresponding English edition. This tacit but expressive compliment to the author is duly acknowledged in the preface to the volume. Aside from the sanction which the rapid sale of this work gives to its merits, and adaption to the necessities of the practitioner, we would add our own word of commendation. The principal feature which characterizes the work, is a system of well-executed plates, sixty-four in number, which thoroughly illustrate every branch of simple, complex and operative midwifery. In addition to this, the text embraces a complete and comprehensive exposition of the present state of obstetric medicine, and the authority which pertains to the writings of Dr. Ramsbotham is sufficient guaranty of the correctness of the doctrines inculcated. The author has made some important additions to the present edition. Dr. Keating has added many valuable notes, tending to make the text more clear, or dissenting from the opinions of the author. This volume, made so complete by its plates and copious text, may now be regarded as one of the best guides in the practice of midwifery to which we have access.

Art. XIII.—*Principles of Physiology;* designed for the use of Schools, Academies, Colleges, and the general Reader; comprising a familiar explanation of the Structures and Functions of the Organs of Man, illustrated by comparative reference to those of the inferior animals. Also, an Essay on the Preservation of Health, with fourteen quarto plates and over eighty engravings on wood, making in all nearly two hundred figures. By J. C. Comstock, and B. N. Comings, M. D. New York: Samuel S. & William Wood, 261 Pearl-street, 1855. Quarto, pp. 110.

This is by far the best illustrated work of Physiology, designed for schools and popular reading, with which we are acquainted. The plates are all accurately drawn and most of them are beautifully colored, while the text is clear and concisely written.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On a prevailing form of Chronic Pneumonia. By Dr. Cotton.—After a brief comment upon the increasing frequency of chronic diseases within the last few years, the author entered upon the description of a peculiar form of low or chronic pneumonia, which has extensively fallen under his notice at the Consumption Hospital. The old and the young, the strong and the feeble, are, with nearly equal frequency, the subjects of the disease. There is, at the commencement of the attack, very seldom any local pain; neither is there dyspnœa nor much cough. The expectoration is scanty, or, perhaps, entirely wanting; the rust-colored sputa, so characteristic of active pneumonia, being but rarely observed. The pulse is at first very slightly affected, seldom exceeding 80 or 90 in the minute; and there is little symptomatic fever. Every symptom of the disease, indeed, is of a passive character, scarcely exciting the apprehension even of a medical attendant. It may thus continue for weeks, or even months, until a little local pain or slight dyspnœa, or a severe and intractable cough, with perhaps some emaciation and night perspirations, lead to a suspicion of something more formidable than the dyspepsia or the bronchitis, to which hitherto the symptoms had probably been referred. The author was of opinion that, under early and judicious treatment, the great majority of cases may recover; but that too often the disease either degenerated into true pulmonary tuberculosis, or ended in a fatal softening or breaking up of the pulmonary structure. He dwelt particularly upon the importance of an early and careful examination of the chest; stating that dullness on percussion, but not bronchial respiration, and little if any change in the external appearance of the chest, were the characteristics of the early stage; the breathing becoming weaker, and marked by subcrepitant rhonchi; and the thoracic parietes undergoing contraction as the disease advances. He had very rarely indeed heard the *fine crepitation* of more acute pneumonia. Dr. Cotton considered that, in the early stage, the lung was simply engorged; that, at a later period, it was the seat of an albuminous or fibrinous exudation, which, in cases still further advanced, had undergone the softening process. He illustrated these statements by briefly narrating cases in point. He was anxious to distinguish the disease he was describing from pleuropneumonia, which he considered was usually a more severe and acute seizure, although he believed that now and then the one may pass into the other. When the attack was of recent date, cupping or leeching were recommended; but if, as generally happened, the stage of engorgement were passing away before the case came under treatment, counter-irritation with blisters, and subsequently with stimulating and iodine liniments, was specially advised: the author, indeed, considered this practice of equal or even greater importance than any other part of the general treatment. Mercury in moderate doses, (except in cases evidently associated with phthisis,) with, in some instances, antimony, and general expectorants and sedatives, were the appropriate remedies for the early periods of the disease; slight mercurial action, together with tonics, being suited for the more advanced and chronic stages. Amongst the latter class of medicines, the author particularly spoke of the iodide of iron and cod-liver oil, either separately or in conjunction; the iodide of potassium, quinine, and steel. Whatever medical means were resorted to, he insisted upon the great importance of hygiene; stating his conviction that healthful and happy associations, with thorough physical and mental relaxation, together with a liberal and nourishing diet, should ever form a part of the physician's prescription.

In the discussion which followed, Drs. Glover, Camps, Andrew Clark, Theophilus Thompson, Gibb, Radcliffe, and Ryan, and Messrs. Ross and Hinton, took part. Dr. Glover believed that the affection described by Dr. Cotton was the same disease as had been so well described in *Guy's Hospital Reports* (vols. for 1837 and 1843) by Dr. Addison. It often closely simulated pneumonia and phthisis, but it was really an albuminous infiltration of the pulmonary tissue, and was most commonly met with in the middle portion of the lungs.

Treatment of Plastic Bronchitis. By T. B. Peacock, M. D.—In the cases of acute plastic bronchitis which come under the care of the medical practitioner at the commencement of the disease, the aim should be—1st, to relieve the inflammatory symptoms; 2d, to assist the expulsion of the membranes when formed; and 3d, to prevent their further formation. These indications should be accomplished by a judicious employment of antiphlogistic measures, regulated by the urgency of the symptoms and the power of the patient. It would be necessary to cup or apply leeches over the affected part of the chest, to exhibit antimony, and to affect the system mildly with mercury. The expulsion of the membrane might be assisted by the use of emetics, and by inhalations of the vapor of water, or of etherial or other fluids; and the further formation of the membrane would probably be best controlled by mercury. In the later stage, the use of anodynes and tonics would be required.

The use of mercury in conjunction with other antiphlogistic means is strongly recommended by Drs. Gordon and Banks; and Dr. Thierfelder, while he says little benefit results in the acute disease from a purely antiphlogistic course, approves of the employment of depletion in combination with mercurials. He also regards mercurials, the hydrochlorate of ammonia, and the iodide of potassium, as beneficial in the chronic form of the disease. The latter remedy he employed, in the treatment of the case which he has related, in very large doses. Dr. Watson, in alluding to a case of plastic sputum, which was attended with hæmorrhage to an alarming extent, remarks, that though the case seemed at first to call for active interference, and was in consequence energetically treated, on looking back upon it, he regarded the treatment as having been unnecessarily active: and the remark seems applicable to a large proportion of the cases of this description. Though alarming in their first appearance, they often do not seem to require very active measures for their relief. In those cases in which the disease becomes chronic, or recurs at intervals, on any exacerbation of bronchitic symptoms, protection against the weather, and, if possible, residence in a warm climate, should be enjoined.—*Med. Times and Gaz.*

Treatment of Gout. By GEORGE BUDD, M. D.—The treatment of gout is very plain. Some of our best authorities make it very short indeed, and will tell you, "patience and flannel" will do every thing; but if gout is thus neglected, lithate of soda settles in the smaller joints, and the disposition to gout is encouraged; I would rather advise, when you get the disease in time, with fever, hot skin, full pulse, and gout well-marked, give calomel and colocynth first, with the ordinary senna draught followed up by carefully administered doses of colchicum. You may give the *acetic extract* gr. i. ad. ad. ii. omni nocte, or the *vinum sem. colchici.* Of the latter you must not give more than a drachm a-day.

It is most important for you to learn how to give colchicum; it is a very powerful remedy, and accumulates in the system. You should give vin. sem. colchici gtts. xx. ter in die, in the ordinary saline draught; but not with alkaline solutions. The latter may be given in the intervals, but alkalis are said to decompose colchicum, or you may give the colchicum at night, and the bicarbonate of potash in the day. Camphor mixture, cinnamon-water, etc., may be given with the colchicum and small doses of the spts. nitri. dulcis; this and the aq. acet. ammoniæ will act on the skin, and liver, and kidneys, and thus assist in eliminating the noxious matters of the blood which assist, if they do not alone assist, in generating this terribly painful disease. We need not give formulæ, as every case will require prescriptions adapted specifically to itself. As a matter of prophylaxis, the physician should advise patients to avoid drinking largely of malt liquors or bad wines; indigestible and unwholesome food also are to be proscribed.

In inflammatory gout you should attend also to the digestive organs, but above every thing malt liquors should be given up; I have known two or three patients make marvellous recoveries by this simple expedient alone. The Bath waters at one time enjoyed a great reputation for curing gout; now, all the world that can do so, go to Weisbaden, where many remarkable cures are made; to these waters I would add gentle tonics, preparations of steel, preparations of bark, the liquor cinchonæ without acid; an overdose of colchicum is known by the patient complaining of nausea; if pushed further, he will have vomiting and diarrhœa, and very remarkable depression of pulse to 50 or even to 40; if there be headache the dose is too large; we should not give colchicum where there is already diarrhœa or irritable bowels; when given it should be continued till after the gouty inflammation has disappeared, in small and vanishing doses. The limb affected, I need hardly remark, should be wrapped in hot wool, or hot flannel, or, what I have found useful, fomented with the hot alkaline fomentation.—*Med. Cir.*

Treatment of Irritable Stomach in Phthisis.—Several very pleasing cases, illustrative of the good effects of hydrocyanic acid and bismuth in the treatment of irritable stomach in phthisis have recently been under observation among the out-patients at the City of London Hospital for Diseases of the Chest. The patients had been long subject to nausea and attacks of vomiting, and were quite unable to retain cod-liver oil on the stomach, very often rejecting also ordinary food. The mixture prescribed consisted of 3 minims of the hydrocyanic acid and 10 grains of the trisnitrate bismuth made into a draught with mucilage and green-mint-water, and taken thrice daily. By its aid several patients have got quite rid of their troublesome stomach symptoms, and are now taking the oil easily and with benefit. The class of cases best suited for this treatment are those in which the tongue is generally clean, and in which the disease is undue irritability rather than disordered function.—*Med. Times and Gazette.*

External Employment of Aconitine.—An interesting case of painful stump is now under the care of Mr. Hilton, in Guy's Hospital. Its subject is a stout muscular man, whose right hand was removed after an injury some time ago. Ever since the amputation he has suffered most severely from neuralgia of the ulnar nerve, which has quite prevented him from using the stump. The pain was also increased by the least motion. Mr. Hilton ordered the application of an aconitine ointment over the course of the nerve. The ointment consisted in two grains of the alkaloid to an ounce of lard. Very great benefit speedily resulted, and when the man left the Hospital a short time afterwards, the pain had been so completely relieved, that he could use his arm most actively without producing any uneasy sensation. The cure, however, was not permanent, and a month after his discharge the man was re-admitted. Mr. Hilton did not think it advisable to trust him to use the ointment continuously, and as nothing less seemed to keep the pain in abeyance, it was decided to excise a portion of the ulnar nerve. The operation was performed last Tuesday, a little below the elbow, an inch and a quarter of the nerve trunk being cut out. The case is of value, as showing what the effects of the ointment might be in cases in which the neuralgia was due to a transitory cause. Mr. Hilton has also under care a man suffering from irritable bladder, in whom the same ointment has been had recourse to. By frictions over the loins and sacral region great relief has been obtained, and the man who was formerly passing his water every few minutes can now retain it for an hour at a time.—*Ibid.*

Cases of Ulceration of the Stomach, inspected at Guy's during the year 1853.—Dr. HABERSHON concludes his paper (*Medical Times and Gazette*) thus :—The cases I have thus briefly narrated present ulceration of the stomach in some of its several forms.

1. Aphthous ulceration, minute very numerous ulcers, perhaps coming on but a short period before death, and closely allied to a second form, or hæmorrhagic erosion, or gastritis folliculosa of Cruveilhier, and the perforating ulcer, which occurs not unfrequently in young persons, in whom, with an almost healthy mucous membrane as to external appearance, a small ulcer has led to circular smooth opening into the peritoneal cavity, and speedy fatal results. This is an important class of disease, although no instance is recorded in this paper. It is probable that depressed nervous power, with disordered secretion or irritating food, lead to this condition. 3. Simple ulceration, arising in connection with inflammatory condition of the mucous membrane, and often associated with congested portal or hepatic circulation. 4. Chronic ulceration, often terminating by perforation, or, as one of the cases narrated, by exhaustion. 5. Chronic ulceration, arising probably from some corrosive or irritating substance administered, and leading to destruction of the mucous membrane, and subsequent contraction. I have avoided functional diseases of the stomach, and those which are of a carcinomatous character; but I trust that the contrast of these several cases may not be without interest, and will, I doubt not, suggest interesting questions as to their treatment and pathology, beyond those which have been incidentally alluded to in the detail of these cases.

The treatment which I have seen most efficacious in many cases of ulceration of the stomach, has been the administration of food of a simple, unirritating, but nutritious character, in small quantities, but frequently repeated; and where *excessive* irritability of stomach has existed, by the use of nutrient enemata instead of the administration of food by the stomach, counter-irritation, and by the internal use of alkalies with sedatives of hydrocyanic acid, bismuth, conium, creosote, etc. Where less irritability has been observed with loss of power or anæmia, by vegetable tonics, quinine, or steel, in their mildest forms of administration. In that form of ulceration which appears to arise with congestion of the portal system, (the 3d class of cases,) great relief is afforded by freely relieving such congestion by the least irritating means; sometimes, also, by the application of leeches to the scrobiculus cordis, and afterwards by the internal administration of nitro-hydrochloric acid with vegetable tonics.

Treatment of Carbuncle. General Treatment.—Three or four different plans of treatment are in vogue in the Hospitals for the treatment of carbuncle. 1st. By stimulants, full diet, quinine, ammonia, etc. 2d. By opium, freely used, and generally combined with tonics. 3d. A more expectant plan, by salines, low diet, etc., in the first stage, and the moderate use of tonics afterwards. In all these, purgatives, of course, form a part. One of the largest carbuncles which we have ever seen, occurred to a tailor, from Hampton Court, who was treated by Mr. De Morgan, in the Middlesex Hospital, about two years ago. The case was an extremely severe one, the depression of the vital powers being such that, for more than a fortnight the result seemed very doubtful. The very free use of opium, in combination with liquor cinchona, appeared to answer an excellent end, and the man ultimately recovered. We have not, however, seen the opiate plan tried on a sufficiently large scale to justify an opinion as to its general merits, the method by stimulants being by far the most frequently adopted. Mr. Lloyd, at St. Bartholomew's, is the surgeon who is, perhaps, the most sparing of any in the use of stimulating remedies; and we certainly have not observed that his cases do any worse than those of others. In the early stages, Mr. Lloyd generally prescribes salines and fever diet; unless, indeed, the patient be very old or infirm. In one case under his care, after the sloughs were separating, several attempts were made to give stimulants, but on each occasion a fresh accession of inflammation being caused, they were at length desisted from, and the man recovered very satisfactorily without. In carbuncle, as in all other diseases, the surgeon should, doubtless, pay less regard to the name and reputed pathology of the affection than to the symptoms actually present. If the system be much depressed, if the disease appear to have resulted from bad living, and, above all, if the patient's instincts demand them, stimulants should be pushed. If there be extreme restlessness, pain, exhaustion, etc., and if, after a few doses, it appears to agree with the stomach, the sustaining properties of opium may probably be very valuable. Should, however, the patient be of fair strength, the disease in its stage of advance, and attended by sharp inflammatory fever, it may be doubted whether any empirical evidence as to the usefulness of stimuli under such circumstances has yet been obtained sufficiently strong to lead the surgeon to ignore the rational principles of treatment. In such a condition, the arrest of the disease would probably be much sooner effected by alteratives, purgatives, and salines, than by brandy or opium. It is even not improbable that the bleeding caused by incisions is often of great advantage.

Local Treatment. From the time of Wiseman, the practice has been general of making free crucial incisions into all carbuncles. It has not, however, been absolutely universal. A few surgeons, among whom may be mentioned John Pearson in our own country, Von Walther in Germany, and Perrez in France, have been sceptical as to its efficacy. There are also in the present day some surgeons who do not recommend it. Chelius, on the contrary, who appears to have paid some attention to this question, records thus, in strong terms, his conclusion:—"That cutting into the carbuncle is generally neither useful nor necessary, is the most dangerous statement that can be put forth respecting its treatment." Respecting this point, two propositions may, we think, be maintained: 1st. Carbuncles will very frequently get well without having been incised. 2d. The practice of incision, however free, does not by any means universally arrest the carbuncular inflammation. In proof of the former, the fact, that of the cases in our list, eight were not treated by incisions, is conclusive. In these, for the most part, the patients came under care when the disease was evidently arrested, and when free openings had spontaneously formed; so that there was no object for resort to the knife. Many others besides these have been under our observation, and, as a general rule, it may be asserted that the destruction of tissues is far less extensive when the incision has been avoided, than when practiced. The consequent cicatrix is of course much less also. The assertion, that incisions, even of the freest kind, do not always arrest carbuncular inflammation, will scarcely be held to need proof by any one who has seen much of the disease. If the proof be required, however, we may refer to the fact, that in five out of the twenty-seven cases in which incisions were practiced, their repetition was subsequently necessary. Yet, granting the occasional spontaneous curability of carbuncle, and the occasional failure of treatment by incisions, the case still stands very triumphantly in favor of the latter. The only drawbacks to their use are the amount of sloughing and the large scar; but to set against these we have the complete relief of pain in almost every case, and the fact that of twenty-seven cases on our list, in no fewer than seventeen the inflammation never spread after the first incision. This latter fact is one of great importance, for it cannot for a moment be held that in so large a number the cessation of the diseased action was simultaneous with the incision treatment by accident. The relation between the two must, we think, be held proven; and the fact becomes more telling when we add to it, that of the six exceptions in which the disease spread, in none did the spreading continue more than five days, and in none were more than three incisions needed. Now, it happens that a large majority of carbuncles occur in positions in which the avoidance of scar is a matter of no moment; and in those where it is important—the face, for example—the disease is so dangerous to life, that in its treatment considerations of personal beauty cannot be allowed much weight.

Case of Cancer, cured by External Application of Caustic. By J. D. GILLESPIE, M. D.—A gentleman, aged 79, of a large robust frame, in 1847 received a slight abrasion of the heel, which speedily cicatrized, but the cicatrix soon after gave way and ulcerated. The ulcer dried up and left a hard warty substance in its place, which continued to increase. In 1851, it had assumed the appearance of a hard cancerous growth, fully half an inch in depth. By the advice of Mr. Syme, caustic was applied. Erythema of the leg soon after set in and reached as far as the groin, and the tumor increased in size. A second attack of erythema occurred a few weeks after. The tumor continued to increase in size; the glands in the groin became enlarged; the general health began to be impaired, and the mental faculties were affected. It was in October, 1851, that caustic had been first applied; the tumor was then the size of a walnut, spongy, and occasionally bleeding. Chloride of zinc was had recourse to, and the tumor came away, but after cicatrization had commenced the tumor reappeared. The application was continued for a year with similar results, repeated hæmorrhages took place and the glands in the groin were permanently enlarged. Potassa fusa was applied on three different occasions, but the chloride of zinc was decidedly more efficacious. On September 18th, a year after the first application, chloride of zinc was tried for the twentieth time, and the tumor to the extent of three inches was destroyed; a part of the os calcis exfoliated. Two years have now elapsed, and there had been no tendency to reproduction. Dr. Gillespie considered the case interesting, as it was just such a one which was occasionally vaunted by some quack as a victory gained over modern surgery, and this one certainly explained their so-called cures, and at the same time it was fraught with caution to the surgeon not to lose an opportunity of giving similar cases a trial with the caustic before dooming them irrevocably to the knife.—*Ed. Monthly Jour.*

SURGERY.

The Value of Cough-impulse as a Symptom of Hernia.—Several instances have recently come under our notice illustrating the value of the knowledge of the fact, that *in tightly strangulated hernia no cough-impulse is ever felt.* In all the reducible or merely incarcerated forms, the information derived by making the patient cough is so conclusive, that it is not surprising that attempts should be made to apply the same test to cases in which strangulation exists. Entire forgetfulness of the condition of the bowel could, however, alone induce any expectation that impulses generated within the abdomen would be communicated to it. In all cases in which the constitutional symptoms of strangulation are present, the diagnosis as to whether the tumor be hernial or otherwise must be made without reference to its movements during coughing. Much valuable knowledge on other points may, however, be yet derived from the test. If—in the certainty from other signs that the tumor is really a hernia—there be not the least impulse, a fair inference may be drawn that the stricture is tight. If impulse be felt in the upper part of the neck of the tumor, and not in other parts, the seat of stricture may be accurately determined, being, that is to say, just below the spot where the perception of impulse is lost. On this latter point Mr. Luke has, in his paper "On the Operation for Strangulated Hernia," *Medical Gazette*, 1839–40, insisted strongly; indeed, we believe he was one of the first to direct attention to its value. With regard to the absence of cough-impulse in strangulated hernia generally, our surgical manuals have, for the most part, neglected to make any observation respecting it, while in some, from the terms used, it might be inferred that it was an ordinary symptom. It is still not infrequent to see cases reported in which its absence is noted as having been a source of difficulty and doubt. Most deeply would it be to be deplored should such absence ever lead to delay in performing the operation, since it is, in fact, a conclusive indication of its necessity. We have not made the statement printed in italics above without first instituting much inquiry among those of most experience, and also availing ourselves of every opportunity which has of late occurred for acquiring data in respect to it. The following sentence in its support we quote from a note by Mr. South, in his edition of Chelius:—"I have on more than one occasion heard surgeons of eminence speak of dilatation of a strangulated rupture on coughing, which, I must confess, I think impossible if the rupture be more than incarcerated."—*Med. Times & Gaz.*

Opium in the Treatment of Chronic Ulcers. By Mr. Skey.—Opium produces a certain effect on the chronic and callous ulcer; if it answers here, it will in other diseases, having the special characters of the chronic ulcer. The pharmacologists tell us it is a stimulant and sedative. What do you understand by the stimulating properties of opium? I should be at a loss to call to mind any cases in which it is given as a stimulant, unless in such as these. In nineteen out of twenty instances it is employed as a sedative, as, for example, in relaxed bowels, and to promote sleep. I can show you it possesses other properties quite equal to these; it prevents sleep sometimes; when taken continually it tranquilizes, but it will not always produce sleep. What is the action of opium to which I allude? Whether it acts on the centre or the periphery, whether on the heart or capillaries, I do not know. But this I do know, that it promotes a healthy action on the capillaries of the body, and in cases of chronic ulcer, which I select as an example, you will have a local action set up, which will heal a wound,—will set up a healthy granulating surface, and completely heal it up in a short time, when every other method has failed to do so. What is the condition and character of a chronic ulcer? A chronic ulcer is an excavation, for the most part, affecting the limbs of old people, generally the inner side of the lower limbs; two processes are going on, the formation of the excavation, and the formation of a ring of organized lymph which encircles the excavation, thus hollowing it to a considerable depth, and its surface is covered with unhealthy lymph. This is common to all of them; the elevation of the margins is not a specific manifestation, as it is common to other forms of ulcer. Under the microscope there is not a granulation to be seen, there is an ichorous discharge, with an offensive fœtor arising from it, and yet there is no sensibility, no annoyance nor suffering to the patient, it goes on for year after year without any change; you may strap it, there is no change produced. I give opium, what does it do? It seems to start the capillary system all over the body, particularly in the lower extremities; it produces a genial glow, which may be compared to that of a cold bath, but not from such as is ordinarily taken; go into a warm bath, with a meal in the stomach, with or without perspiration, it makes no difference; well, then, the glow is produced by the opium, and healthy granulations over the whole surface of the ulcer will become apparent in a week. What is the sum of the actions of opium? You will say it is unhealthy. It is not; it promotes warmth, the pouring out of healthy secretions, it produces healthy integument, healthy granulations, it absorbs the unsound around it, and, while the granulations are coming up the elevations are going down. That cannot be considered unhealthy which promotes health.—*Med. Press.*

An Analysis of 3000 *cases of various kinds of Deformities.* By Mr. E. Lonsdale.—The table is arranged in six divisions:—

1. Deformities of the bones and joints of the lower extremities,

arising from weakness either in the bones themselves, in the ligaments, or in the muscles—1663 cases. 2. Club-feet—495 cases. 3. Deformities of the spine—465 cases. 4. Affections of the joints from paralysis—288 cases. 5. Deformities from badly-united fracture—63 cases. 6. Deformities from arrest of development—16 cases.

Simple bow-legs, or outward curvature of the tibia and fibula is the most common, amounting to 533. Simple knock-knees occur the next in frequency, being 481. Knock-knees and bow-legs may co-exist as rickets, and produce a very great amount of deformity. Bow-legs, with outward curvature of the femur, number only 23. Bow-leg of one side and knock-knee of the other, may be remedied in early life, but not after the bones have become firm. Club-feet are divided into—1. Talipes varus. 2. Talipes valgus. 3. Talipes equinus. 4. Talipes calcaneus. To one form of talipes equinus he gives the name of rheumatic, because that disease causes contraction of the muscles of the calf.

All cases of varus require the division of tendons—viz., the tibialis anticus and posticus, the tendo-Achillis and the plantar fascia. In talipes valgus, the extensor communis and the peroneus must be divided. In talipes equinus, the tendo-Achillis offers the obstacle to replacement. In talipes calcaneus, the treatment is effectual only in those cases (congenital) where the deformity arises from spasm of the muscles in front of the leg. When paralysis of the muscles of the calf exist, the relief is partial.

Deformities of the spine are divided into—Lateral curvature, 173; posterior curvature, 70; latero-posterior, 29. Abscesses form when carious disease attacks the lumbar vertebræ, but not in the higher regions of the spine. Lateral curvature may depend upon disease of the thoracic viscera. Joints may be permanently contracted by the action of surrounding muscles; the hip is most frequently affected. Wry-neck often causes alterations in the expression of the features. Deformities may arise from fractures badly united; the number amounted to 31. The author had seen some cases of spina bifida in the Orthopœdic Hospital, also some of curvature of the legs, from excessive development of the adipose tissue in young children.

Mr. Lonsdale observed that mechanical appliances were resorted to only when Nature had failed to effect a cure. The support was applied laterally, and did not interfere with the motions of the chest, nor with the growth of the pelvis, as it was placed around, and not on that region. The careful and proper employment of mechanical support in his practice had been attended with the most beneficial results. —*Lancet.*

On the value of the treatment of Orchitis by Collodion. By M. Ricord.—Thirty-eight patients have been treated, under M. Ricord, by elastic collodion, according to the rules established by M. Bonnafont. The pain produced by the application of this substance lasted from six minutes to a quarter of an hour. The greater number of patients felt easy from that time, but others experienced a recurrence during the course of the day. One of them complained of most acute suffering. The inflammatory pain diminished in some, and ceased in others, without any sensible influence from the collodion: in a certain number of cases the pain was sensibly augmented. In none of the patients treated in this way had M. Ricord to relate the miraculously rapid cure announced by M. Bonnafont. After twenty-four hours the tumor had not sensibly diminished in volume; it presented, in the majority of cases, the diminution of one-third of an inch after forty-eight hours; then the diminution continued to operate gradually and progressively. The mean duration of the malady in the cases treated by collodion, was seventeen to eighteen days. At the same time, eleven patients, also affected by blennorrhagic epididymitis, were treated by repose, strict regimen, and topical cold. The inflammatory pain disappeared promptly, and the diameter of the tumor was sensibly diminished at the end of thirty-two hours. The mean duration of the malady was fifteen to eighteen days. A third series of patients was treated by compression by strapping. Here the symptoms disappeared more rapidly than in the preceding plans. The mean duration of treatment was fifteen days. One patient was discharged cured in six days. M. Ricord believes that elastic collodion does not cause such suffering as the ordinary collodion, but that it is a more painful mode of treatment than others. M. Velpeau believes that collodion does not shorten the duration of orchitis; it sometimes diminishes the pain; on other occasions it increases it; it irritates the skin; often excites suppurations, which are tedious and inconvenient. M. Bonnafont has explained his success upon the fact of his having treated his cases at the very outset, a circumstance quite possible in a military hospital.—*Rev. Med. Chir.*

Lithotomy. By MR. HILTON.—The patient was a lad brought in with well-marked signs of stone. During the preliminary parts of the operation, nothing unusual occurred till Mr. Hilton passed the forceps to extract the stone. The latter was at once found to be very large; but that which protracted the period of the operation to double the ordinary time of such extractions was stated by Mr. Hilton to be a most unusually sacculated condition of the bladder. Again and again the forceps seemed to catch the stone, but as often slipped off the stone again; the latter to all intents and purposes firmly grasped by the muscular bands of the bladder. The operation for lithotomy, we are quite aware, is not one done every day by each of our readers, yet our younger practitioners will do well to take note of these cases when they do occur. The calculus appeared to Mr. Hilton as if held by strong bands of muscular fibres stretching across the bladder, completely encysted, in fact. Such cases are fortunately not often encountered by the surgeon, and when they are, as in the case so ably managed by Mr. Hilton on the 21st. ult., at Guy's, they give rise to no little apprehension. "Cases of encysted calculi are fortunately very rare (says one of the best lithotomists of the day, Mr. Coulson), but when they do occur they present one of the most embarrassing conditions with which the lithotomist can have to deal, for the stone is more or less concealed in a sac, the entrance into which may be much narrower than the fundus. Could it be ascertained with any certainty, before an operation has been undertaken, that the stone is actually lodged in one of these sacs, I am decidedly of opinion that lithotomy should not be had recourse to, because it is ten to one that the operation will turn out to have been useless." This must be a serious and anxious position for a young surgeon. In the subsequent part of the operation, even when the stone had become detached, it was found very difficult to extract it by the original opening, till Mr. Hilton called for the knife again to enlarge the incision in the soft parts external to the prostate. Considerable hæmorrhage, as might be expected, followed; however, by keeping up pressure on the parts, this was ultimately controlled. As we expected, Mr. Hilton informed us he did not cut so deep as the prostate.—*Med. Cir.*

Upon Wounds of Arteries, and their Treatment. By Mr. Butcher.—The direction given in works on surgery to cut down to a wounded artery, and to put a ligature above and below the seat of injury, is good in itself, but not always practicable. When the internal carotid artery is wounded by a piece of tobacco pipe thrust through the mouth, the common carotid must be the vessel tied. A similar necessity may exist even in wounds of the extremities, as has been shown by Mr. Butcher, F. R. C. S. I., Surgeon to Mercer's Hospital. We find, in the *Dublin Quarterly Journal of Medical Science*, an account of a wound of the profunda artery; ligature of the femoral, below the margin of Poupart's ligament, by a transverse incision; arrest of the bleeding; death eleven hours afterwards. It was impossible to tie the artery above and below the wound, owing to its great depth from the surface; the main trunk was, therefore, secured by a ligature, the incision through the skin being made transversely, as previously practiced by Mr. Porter, in consequence of the necessity of putting on the ligature so close to the crural arch. The most interesting part of Mr. Butcher's communication is the narrative of those cases in which he commanded hæmorrhage from a large vessel by means of well-adapted pressure. A policeman was stabbed in the leg: severe arterial hæmorrhage, followed by faintness, ensued. Mr. Butcher concluded, from the nature of the accident, that the posterior tibial artery was wounded. Graduated pressure, by means of a roller and compresses (7 or 8 pledgets over the situation of the wound) was carefully exerted; the foot was raised; a compress and roller were applied over the popliteal artery, and a dose of morphia was administered: the limb was kept steady by a splint. On the following day, the pressure was removed from the popliteal artery and applied to the femoral, by means of an aneurism compress on the groin. The case did well; and Mr. Butcher, in commenting upon it, remarks that, as a rule, the surgeon should not seek for a wounded artery unless it be bleeding. A case of wound of the ulnar artery above the wrist was successfully treated by compression of the wound and pressure over the brachial artery; and profuse hæmorrhage from the hand after excision of the index finger, with removal of the head of the metacarpal bone, was completely controlled by powerful flexure of the injured limb, together with gentle pressure over both the radial and the ulnar arteries.—*Med. Chir. Rev.*

MIDWIFERY.

On the Advantages of Excision of large Uterine Polypi over Deligation.—PROF. SIMPSON contends (*Monthly Journal*) that excision of large pedunculated uterine polypi is a simpler and safer operation than removal by ligature. To effect the operation of excision he has invented an instrument having the form of a blunt midwifery hook, with a concealed blade in its concavity, which divides the stalk of the tumor when once embraced by the hook. He thus speaks of the relative dangers of the two operations:—

"The principal danger to health and life in this, as after other surgical operations, is the danger of phlebitis and surgical fever. Is such a consequence more liable to follow upon the instantaneous resection of the peduncle of a polypus, and the subsequent immediate removal of the amputated polypus itself,—or is it more likely to supervene upon the slow process of disjunctive ulceration being set up in the stalk of the polypus by the ligature, while the gangrenous and putrifying polypus itself is left decomposing in the cavity of the vagina?

"I believe that no physician or surgeon acquainted with modern pathology will have any difficulty in answering, that the danger of phlebitis is much greater under the latter circumstances than under the former. The recorded experience of some of those who have written in favor of the ligature, shows strongly enough the occasional liability under deligation to the occurrence of irritative fever and internal inflammations, from phlebitis and the absorption of putrid and purulent matter from the vagina. Dr. Hamilton mentions three cases of death which he had seen follow the removal of uterine polypi by ligature. 'On a close inquiry,' observes Mr. Arnott, 'I find that even those who use it (the ligature) acknowledge that occasionally cases have been met with, where the ligature in cutting its way through, has excited irritation and fever, and even death. Two cases have been described to me by the practitioners concerned where this occurred, and in casually referring to the interesting works of Boivin and Duges I find two similar ones." In his lectures on fibrous tumors of the uterus, Dupuytren states, 'I possess eight or ten observations of women who have perished, from veritable poisoning and absorption of pus, after the application of the ligature for uterine polypus.'

"I have myself seen a woman die with a ligature still fixed around the partially divided neck of a uterine polypus; and other cases where severe but not fatal attacks of phlegmasia dolens and phlebitis followed deligation. Twelve or thirteen years ago, on a patient of Dr. Edgar's, of Berwick, I applied a silver wire ligature to the neck of a large polypus, and tightened it from time to time, according to the usual rules. In the course of a few days the polypus was dead and putrifying; there was much heat and irritation in the vagina; and the patient's pulse became rapid under the irritative fever that followed. On strongly tightening the ligature, to expedite as much as possible the total amputation of the polypus, the wire broke; and the canula and wire slipped off. I immediately proceeded to remove the polypus by excision instead of making any renewed attempt at deligation; and the result was to me very striking and satisfactory. Within twenty-four hours the local irritation had greatly subsided, and the constitutional disturbance entirely disappeared. From that time to this I have operated on many uterine polypi, but never again by the process of slow deligation. And the more that I have seen of the practice of removing large pediculated uterine polypi by excision, the more deeply has the conviction grown upon my mind, that this method is very superior to the usual method followed in this country, of the removal of them by the canula and ligature.

Case of Puncture of the Ovaries per Vaginam. By DR. J. SCHNETTER, of New York.—The case of Dr. Schnetter is one of double ovarian dropsy, two cysts having been successively punctured per vaginam. The patient was twenty-five years old; she had been delivered by the forceps, after a difficult labour, a year before she came under Dr. Schnetter's care; she had suffered from painful menstruation before pregnancy, and, during pregnancy, from unusual distension of the abdomen and difficult respiration. Fever and marked symptoms of peritonitis followed delivery. Examination revealed a tumor reaching a few inches above the umbilicus, occupying the right hypogastrium. The os uteri was in its normal position. To the right, somewhat behind it, and a little higher, a round and but slightly elastic tumor was felt. The uterus was longer than natural, and bent forwards towards the pubis. The continuity of the tumor in the abdomen with that in the pelvis was ascertained by counter pressure. A curved trocar was pushed into the tumor, when it projected behind the cervix uteri. At first, blood, then a few ounces of discolored pus followed. The trocar was driven further in, and by means of a curved knife passed through the canula, a further opening into the tumor made. A little bloody serum followed. A tube was adapted to the wound. Considerable fever and pain ensued. Some days after the operation, pressure being made on the tumor through the abdomen, about four or five pints of offensive purulent gelatinous matter, mixed with fibrinous shreds, escaped through the tube. The tumor disappeared. Discharge continued for some time. The patient's health did not improve. Four months after the puncture, examined again: another tumor was found projecting into the vagina on the *left* side. This cyst was punctured in like manner. Fever and alarming inflammatory symptoms followed. Six days afterwards an abundant discharge took place, gelatinous and fibrinous in character. The wound healed six months after the puncture. The patient eventually recovered her health; and eighteen months after operation there was no sign of relapse.—*Med. Chir. Rev.* from *Verhandl. der Phys. Med. Gesell.*

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On the treatment of Puerperal Peritonitis by large doses of Opium. By A. CLARK, M. D., Prof. of Physiology and Pathology in the Coll. of Phys. and Surg., N. Y. Prof. CLARK has communicated to the new American edition of *Ramsbotham's System of Obstetrics*, his experience in the treatment of puerperal fever, by opium, at Bellevue Hospital, N. Y. Following the relation of one case and a reference to several others, he concludes:—

In reviewing the cases, of which an outline is given above, I think the following conclusions are justifiable:—

1st. When a prominent element in "puerperal fever" is peritonitis, the treatment with large doses of opium is more successful than any other that has yet been proposed.

2d. To be successful, this treatment must be commenced early, and the patient must be brought under its influence as rapidly as the susceptibility of the system can be ascertained by trial.

3d. The quantity of opium required to produce a safe but desirable degree of narcotism, varies greatly in different cases; so that it is necessary to begin with doses that cannot do mischief, and increase every two hours till the influence of the opiate is sufficiently decided.

4th. Every dose, during at least the whole tentative period, should be administered by the physician himself, or by some person on whose knowledge of the effects of opium and whose watchfulness and discretion he can rely. Some young physicians are too bold, and endanger the life of the patient; others are too timid, and do not control the disease.

5th. The opium treatment alone will not cure "puerperal fever," when its leading element is purulent metritis, though there is reason to believe that it will control, and even prevent the peritonitis which generally accompanies it. This conclusion has been confirmed by recent observations.

6th. The tolerance of opium in some cases of puerperal peritonitis almost surpasses belief. Yet in private practice I have not found more than half or two-thirds of a grain of sulph. morph., every two hours, necessary, and have generally begun with less, except for the first dose.

7th. The influence of the opium should be kept up till the pain and tenderness subside, the tympanites diminishes in some degree, and the pulse falls below 100—then, with the concurrence of other symptoms, it should be gradually diminished, and at length discontinued.

A few remarks and statements may be needed to make some of these conclusions intelligible.

The usual effects of opium given in efficient doses for the cure of this disease, are, a disposition to sleep, but not profoundly; a contracted pupil; perspiration, often profuse; sometimes a red, blotchy eruption; diminished frequency of the respiration; subsidence of pain and tenderness; slight suffusion of the eyes; and after a variable time, reduced frequency of pulse. Of these effects, three have been chiefly regarded as the criterion by which each particular dose is to be governed. If, when a dose is due, the sleep is profound (the amount of sleep is of little importance, if the patient be easily roused from it), there is reason to hesitate; if the respiration has already been reduced to twelve in the minute, and is *very* irregular and sighing, the dose should be diminished or wholly withheld; yet so long as the tenderness continues, it is desirable to urge the opiate, but, of course, always within the limits of safety.

The respiration appears to be the most certain indication of danger. I have not generally aimed to reduce it below 12 the minute. Yet in almost every case it has fallen, once or twice in the course of the treatment, as low as 7, and sometimes to 5. In no instance, however, has the narcotism, taken as a whole, been so profound as in the case detailed above. No instance of fatal narcotism has yet occurred under my observation, nor among the many cases reported to me by others.

Regarding the tolerance of opiates in some of these cases—at the risk of being charged with rashness and trifling with human life, I will make some extracts from case 7. The treatment was commenced at 10 A. M., on the 26th of December—two grains of opium hourly. At 2 P. M., no change in symptoms, dose increased to gr. iv. At 3, gr. iv. At 4, gr. v. At 5, gr. v. At 6, gr. viij. At 8, gr. x. At 9, gr. xij. At 11, sol. morph. sulph. (sixteen gr. to f ℥i) ʒiss. At 12, ʒj. At 1½ A. M. (respiration 6), 0. At 6 A. M. (respiration 12), opium gr. xij. At 10, sol. ʒj. At 12 M., opium gr. xij. At 1½ P. M., sol. ʒii. At 2½, ʒii. At 3½, opium xxiv. At 5, gr. xij. At 6½, sol. ʒijss. At 7½, ʒij. At 9, opium gr. xiv. At 10, gr. xvj. At 11, gr. xviij. 28th, at 1 A. M., sol. ʒiiss. At 2, ʒiv. At 3¼, opium gr. xx. At 4, sol. ʒiiss. At 5, ʒiij. At 6, ʒiiiss. At 6½, opium, gr. x. At 7, sol. ʒiiiss. At 8, opium gr. xxij. At 9½, sol. ʒiv. At 10, ʒiij. At 11½, ʒiij. At 12, 0. Thus this woman took, in the first 26 hours of her treatment, opium gr. lxviij., and sulph. morph. gr. vij.; or, counting one grain of sulph. morph. as four grains of opium, one hundred and six (106) grains of opium. In the second 24 hours, she took opium gr. cxlviij., and sulph. morph. gr. lxxxj., or opium four hundred and seventy-two (472) grains. On the third day, she took 236 grains. On the fourth, 120 grains. On the fifth, 54 grains. On the sixth, 22 grains. On the seventh day, 8 grains. After which, the treatment was wholly suspended. This woman was not addicted to drinking, and after her recovery, she assured me repeatedly that she did not know opium by sight, and had never taken it, or any of its preparations, unless it had been prescribed by a physician. This is, perhaps, "horrible dosing," and only justifiable as an experiment on a desperate disease. Yet this woman is alive to tell her story, as are several others who took surprising quantities of this drug. But later observations have shown that the tenth to the twentieth part of this maximum is efficient in controlling the disease. So this case is referred to, not for imitation, but because, with similar cases, it is a medical curiosity; and may, perhaps, open some new therapeutical views.

The results of the opium treatment in the hands of my professional friends in this city have not been uniformly successful. This was to have been expected. When the path to success is so narrow, and so little trodden, though beset with dangers on both sides, it is unavoidable that many will lose it. But I believe I am authorised in saying, that those who have seen most of this mode of medication, are most attached to it. It is not to be expected that in a disease so dangerous as the one under consideration, any plan can be uniformly successful, even with advantages of accurate diagnosis and early treatment; but, when it is remembered that the diagnosis between purulent metritis and puerperal peritonitis is not always easy,—and that this medication is successful in proportion to its early adoption,—we may probably find reason for its failure in other hands, as well as in my own.

By way of illustrating the vigilance and discretion which must be exercised in the administration of each successive dose of the opiate in this mode of treatment, I will add, that it could never have been fairly tested by me without the zealous, intelligent, and untiring assistance of the house-physicians of the Hospital. They visited the patients every hour by night as well as by day, and every dose of the medicine, from the first case to the last, was given by them, and proportioned to the hourly exigencies.

Notes on Yellow Fever in Charleston, S. C., in 1854. By Henry R. Frost, M. D.—The general character of the disease was similar to former years. Individual cases were more malignant than any previously witnessed. The type of the fever generally continued, lasting two, three, four, five and six days. As the season advanced, it assumed more of the remittent character.

Perspiration in some instances was profuse, even with a hot skin; in others, deficient throughout the continuance of the disease. Heat of the skin was often intense, leaving an impression of burning on the ends of the fingers.

The paroxysm in some instances was of the most violent character—with intense headache—rendering it wonderful how the brain could support such an impetus of blood to this part. The most violent paroxysm of fever I have witnessed, occurred in a black man, spending his first summer in Charleston, who recovered.

As the season advanced natives were seized with the disease—several instances in adults—but children were more especially affected. The disease among them was of all grades, from simple excitement alone with warmth of skin, to the most violent action. The black vomit appeared among them as a symptom in the early stages of the disease, and passed off without its characteristic fatality. In one case a substance of a black appearance, mixed with blood, appeared in twenty-four hours after the invasion of the fever. This passed off in a few hours and the patient convalesced. The disease was of all grades—hence a variety of fevers were said to exist—but, in my opinion, they were all one and the same.

Many recovered after the black vomit, and in rather a larger ratio than in other years, among children especially. In some instances the most intense yellowness of the skin existed, without the corresponding changes in the stomach, attended with the secretion of black vomit.

The sensation of chilliness existed in some instances with extreme ardor of the skin—and while such a burning heat was evidenced by the skin, the patient would be calling for more bed clothes, and seemed only satisfied with half a dozen blankets. Such cases exhibited no peculiarly fatal tendency, the recovery being as great in such cases as others. (A striking instance of this feature of the disease occurred in a patient at Mr. Kennedy's.)

The disease generally attacked the members of the family who were predisposed one after another. Sometimes two would be taken down at the same time, but generally one followed another. The subsidence of the fever was in many instances followed by profuse perspiration, often attended with an icy coldness of the hands and feet, which by many was considered an evidence of the approach of death. This coldness continued twenty-four or thirty-six hours, unaffected by local applications or frictions, but would wear off with the renewed energies of the system. I was called up at night on one occasion to visit a child under these circumstances, who was supposed to be in a dying condition. Another symptom attendant upon the subsidence of the fever was pain in the abdomen between the umbilicus and pubis. This would continue twenty-four or forty-eight hours, leaving the patient ordinarily well.

The black vomit made its appearance in different stages of the disease. The ordinary period was the fourth or fifth day, but a case was related by Dr. Williman, in which the fever commenced with the vomito; and it occurred in a patient under my care, on the 7th day after convalescence had been established to all appearance, the patient being able to leave his bed, and even spoke of returning to his labors.

With the vomito the fever was often renewed, and in a violent manner. Not only was it attended with the ordinary gastric symptoms, but the brain sympathized strongly, and, in some instances, became the dominant disease. Patients have been relieved of the one, and fallen under the disorder of the other. The most formidable symptoms under these circumstances were convulsions, which continued one, two, or three days; and, finally, only ceased with the expiring gaspings of the patient. Another formidable symptom was hæmorrhage. I need not describe the appalling appearance the occurrence of this symptom produces, and how much it adds to the horrors of this disease. It was my good fortune not to encounter this symptom in a single instance.

Was the disease contagious? I need only refer to the statement of the City Register for some facts upon this subject; with these facts you are familiar, and it is a circumstance much to be regretted that the strict regulations upon the subject of quarantine, recommended by the physicians of the city, and a member of Council, also a physician, had not been enforced. It would be much better to annihilate the West India commerce, than that such a calamity should again befall our community.

To the facts thus elicited on this occasion, let me add the extension of the disease to Blackville, Aiken, Augusta, Beaufort, and other places. But let us return to our own community. It is well known that when the disease appears in a family, the members generally susceptible to the disease are more or less affected. A gentleman of our city, with a family of four children, had the misfortune to have one of them taken down with the fever in a very violent form. Feeling apprehensive of the extension of the disease to others, the sick child was removed into a separate room, and none of the children allowed to see her—the result was that none were affected. It is probable that this domestic quarantine was instrumental in preserving the other members, who were similarly exposed, and in a situation not reputed healthy. Hence it became the practice to separate the sick from the well, and to remove, when it was practicable, the entire family from the diseased abode, and I believe in all instances with advantage.

The attack of the disease in children was at times sudden in the extreme. It has happened that the child had been playing in the yard the afternoon preceding its attack, to all appearance well and in high spirits. In the course of the evening it would be languid, drowsy, become feverish, and these symptoms increase to such a degree that in the night it would become delirious, and often to a fearful extent, with intense excitement. This delirium I have known removed by the affusion of cold water to the head—insomuch that the next morning the child has been relieved of all its symptoms—the fever seemingly extinguished by this operation. In other instances it has continued in a more moderate degree during the febrile stage, or it has been followed by convulsions, with apoplectic stupor and death. In adults the attack was often equally sudden—to the moment of seizure the person has been in possession of his usual health—suddenly he is seized with a violent chill, followed by fever. It would seem incredible that a poison of such virulence should lurk in the system for a period even of the most limited extent, without a preceptible derangement of some of the functions of the body.

The degree of exposure required to originate the disease in the system. The shortest period that can very well be ascertained is two hours. A case occurred in a countryman driving his cart into Mobile, who, after remaining two hours, returned home—the disease, becoming developed in a very malignant form, terminated fatally. In our community it was not uncommon, after a residence of one, three or more days.

The protective influence of a former attack of the disease. In some families it was very decided—in some instances all the young members of the family being attacked, except one or two who had undergone the acclimating process in a former year.

In other instances a severe attack of fever, in 1852, has been followed by a severer, in 1854, with black vomit and death.

Yellow fever is not entirely subdued by a black frost. Several cases occurred after such changes in temperature.

In connection with yellow fever must be mentioned the gale of the 7th and 8th of September, which did more damage to the wharves and the shipping than any which has occurred for many years. The tide rose to a great height, and caused more destruction than the wind. For the particulars of this gale I must refer you to the daily journals of that date.

The event which I feel desirous of recording, is the new animation infused into the vegetable kingdom by this occurrence. By the violence of the wind and the spray of the salt water, the leaves of the trees were whipped about and killed, so that the branches became as bare as in the winter. In a short time a new crop began to make its appearance, and in a few weeks our trees were clothed with entirely new foliage, as fresh and green as in the spring, and growing with a rapidity equal to any thing witnessed at that season. Not only leaves, but a new crop of flowers. The trees most remarkable for this last peculiarity were, the peach, the wild mulberry, the apple, the wild orange, the fig, the Seville orange, and the elms.—*Charleston Med. Jour.*

On the use of Glycerine as an Internal Remedy. By J. L. CRAWCOUR, M. D., of New Orleans.—I wish to draw attention, particularly at present, to the *special* action of glycerine on the economy, and the perfect safety with which it can be used as an internal remedy, For the past twelve months I have used it in every case of disease where formerly I should have used cod liver oil, and with superior benefit; for while it seems to possess all the remedial virtues of this latter agent, it is its superior in taste, in not disordering the digestion, and in its property of combining with any other remedy.

In several cases of phthisis, of scrofulous disease generally, in mesenteric disease in children, I have used it largely and successfully; and in children, its sweet and agreeable taste gives it a great advantage over cod liver oil, the only agent I can compare it with, in its therapeutic action. In addition to its special anti-strumous property, I find that it materially aids in the assimilation of salts of iron, especially of the iodide, and I now rarely order either iodine, or the iodide of iron, without combining them with glycerine. Quinine also, is soluble in it, without the aid of sulphuric acid, and to some slight extent is divested of its bitterness.

The dose in which I usually administer it is from one to three drachms three times daily, in an ounce of water; in from one to two drachms, it, in a short period, relieves the cough, improves the digestive powers, and appears to increase the fat-producing principle in phthisical patients; in larger doses it has in a few instances produced nausea; it is, however, essentially necessary to its successful employment that it be obtained pure, and this is a matter of some difficulty, for it is ordinarily the result of the preparation of the common lead plaster, and consequently contains traces of lead, but by the process of Dr. Morfit, who decomposes lard, or oil, with hydrate of lime, it can be procured chemically pure, and at a very cheap rate. Should my communication induce other physicians to try it, the purpose of my writing to you will be answered, as it will be an equal boon to the physician and patient, if a remedy can be discovered equal in properties to cod liver oil and without its nauseous taste and smell.

I have recently tried it as a solvent for phosphorus, which latter we have hitherto hardly been able to use in medicine, as its solution in oil is so nauseous that we can rarely induce patients to swallow it, and its solution in ether is so dangerous that I question whether any physician of ordinary prudence would prescribe it. But in glycerine, it is not only nearly as soluble as in oil, but is miscible with water in all proportions, and is comparatively tasteless and odorless. About two grains dissolve readily in an ounce of boiling glycerine, and from experiments on myself, I consider it a powerful and a valuable stimulant. Of the above solution, which, after the nomenclature of Messrs. Cap and Garot, I would call the glycerole of phosphorus, I took one drachm in a wine-glassful of water, with which it intimately blended; there was hardly any taste or smell, and it did not produce those garlicky eructations said to be the result of the phosphorus in oil. Its effect on my system was that of a stimulant: in about half an hour the pulse became quickened, both at the wrist and at the temples, the cheeks flushed, the skin became warm and suffused with moisture, there was a certain amount of mental excitement, and after a short time there occurred a feeling of oppression at the præcordia, accompanied by palpitation of the heart, while after a certain time the cerebral excitement was followed by a slight feeling of confusion, accompanied by sleeplessness. Each time that it has been taken in this dose, it has, on myself, produced these same effects. I therefore look upon this quantity as excessive, and would suggest that if this remedy be used, it should be in doses ranging from ten to thirty minims. It may be combined with any other drug, and I look upon it as a valuable addition to our list of therapeutic agents; not that the use of phosphorus is new, but hitherto it has been excluded from us from the difficulty of finding a proper solvent—this now, I believe, has been discovered in glycerine. —*New Orleans Med. News & Hosp. Gaz.*

SURGERY.

Case of Resection of the Elbow-joint. By Henry H. Smith, M. D., Consulting Surgeon to the Philadelphia Hospital.—Terence ———, aged sixteen years, entered the Philadelphia Hospital Feb. 23d, 1854, in consequence of caries of the right elbow and anchylosis of the joint, consequent on a fall. The disorder having existed for 18 months, and the arm been allowed to become anchylosed in the straight position, he was sent as a pauper to the Alms House and thence to the Hospital. After being in the house about eight months, he was presented to me at the commencement of my term of service in October. At this time, he was pale, anæmic and enfeebled by long continued disease and suffering, and exhibited symptoms of hectic fever; the elbow-joint was very much swollen, and the skin inflamed and thickened round the bend of the elbow, several ulcerated spots and fistulous orifices existing both on the front and back of the arm. On introducing a probe into two or three of these orifices, the bones were readily felt in a carious condition; there was also perfect inability to move the hand in pronation or supination, the least attempt at bending the elbow or pronating the hand causing him severe pain. As his right arm was thus rendered useless, and there was every prospect of his either dying of hectic fever or becoming a pauper for life, I decided on attempting to save the limb by resecting the diseased joint. Accordingly, on the 11th of October, 1854, after an appropriate preliminary treatment, I operated as follows:—

Operation.—The boy being fully etherized by a mixture of chloroform one part, ether three parts by weight, was laid on his belly with his face inclined to the side of the table, and a stout, round pillow placed on the front of the elbow as a support to the portion to be operated on, as well as with the view of favoring the flexion of the forearm, after the section of the olecranon process.

The arm being thus steadied, an H incision was made over the joint on its posterior face; the flaps turned up, the ulnar nerve dissected out of its trochlea, and held on the front side of the internal condyle, and the artery which accompanied it compressed at a point where it was wounded. Martin's circular saw being then applied to the shaft of the ulna, the olecranon process was soon removed, and the whole joint being thus laid open and found to be diseased, both the condyles of the humerus, as well as the epitrochlea, were sawed off by the same saw. The head of the radius being also diseased, it was excised from the neck of the bone by means of large and strong bone-nippers. So little hæmorrhage ensued on the operation that no ligatures were applied. The flaps were then loosely united by sutures, supported by a light bandage, and the boy placed in bed with the arm supported on a pillow in the semi-flexed position, the whole elbow being covered by cloths, wrung out of tepid water. At eight o'clock, P. M., his pulse was 90, and, as he was suffering, 60 drops of laudanum were given to allay the pain.

Oct. 12.—Slept well, better than for many weeks; suffers but little. Ordered chicken-broth and anodyne pro re nata.

Oct. 18.—Applied an obtuse angular splint to the front of the arm; ordered to sit up. *Oct* 24.—Applied a splint nearly of a right angle. After this date the wound was dressed daily, the angle of the splint being gradually changed to a right angle, and then to one which semi-flexed the arm.

Jan. 15.—Terence can now move his elbow, so that his hand will traverse an arc of forty degrees, and can pronate and supinate the hand quite well.

Remarks.—The advantages of the operation of resection in this case are so apparent as not to require much argument, the saving of a right arm in one dependent on his daily labor for his support, being sufficient evidence of its value as a means of treatment in similar cases.

As a class, few operations are more strikingly illustrative of the progress of conservative surgery than those of resections, yet the number of instances reported in the United States of its application to the upper extremity are by no means commensurate with the cases which might have thus escaped amputation. After a careful examination of a very considerable number of American medical periodicals I find only the following:—one by Dr. Thomas Harris, of Philadelphia, in 1836; one by Dr. Gurdon Buck, Jr., of New York, in 1841, another in 1843, and a third one in 1846; and one by Dr. J. Pancoast in 1842. These cases, with the present one, making only six instances in which this operation has been published. In every case no serious symptoms supervened on the operation, and the patient was relieved of the exhaustion and suffering attendant on the disease, besides obtaining a comparatively useful limb.

The entire head of the humerus was resected by Dr. Hunt, of Washington city, in 1818, and a large portion of the same bone (its head) was removed by Dr. Pinkney, of the Navy, in 1846. When we compare this limited number of operations with the numerous cases of diseased joints that have required it, we must admit that resections of the bones of the upper extremity have not received the attention that the benefits conferred by the operation might naturally lead us to anticipate, and it is with a view of calling professional notice to this useful class of operations that the present case has now been reported. —*Medical Examiner.*

Intense Cold as a Local Anæsthetic—Removal of Congenital Nævus, etc. By J. Mason Warren, M. D.—The patient was a young man having a congenital nævus, of a black color, and of large size, situated over the inner part of the knee-joint, below the patella. The tumor had remained of about the size of a dollar until within two years; since that time a supplementary tumor had appeared beneath the original, quite hard, extending into the adjacent cellular membrane, and apparently attaching itself to the synovial capsule. The whole tumor was sensitive in the highest degree, and at times so painful as to disable the patient from attending to business; even the contact of his clothes producing suffering. It was difficult to make a satisfactory examination, in consequence of his dread of the necessary manipulations. He was kept in a horizontal posture for a few days, dieted, and an evaporating lotion applied, to prepare him for the operation, which was done in the following manner. Excision being objectionable on account of the relations of the tumor to the surrounding organs, equal parts of pounded ice and salt were enclosed in a small gauze bag, and applied to the tumor for four minutes, when the whole of it became congealed and of a white color, crackling under the touch. A narrow-bladed knife was then introduced beneath the skin, and the tumor freely cut up in every direction. The operation was entirely painless; the patient sitting up, and watching its progress with much interest, although previously shrinking on the mere approach of the fingers to the part. The above subcutaneous operation was repeated once or twice, and resulted in the absorption of a large part of the tumor, and entire relief from the morbid sensibility.

In a case of fascial paronychia, in which Dr. W. had recently employed the same method of anæsthesia, the painful incisions necessary to give exit to deep-seated pus were borne without shrinking, and he thought the cure more speedy than under the ordinary treatment. The same fact was remarked by the patient, who was a medical man, and an acute observer.

In one or two cases of operation involving vascular tumors, Dr. W. had found it of much service, during the progress of the dissection, to apply the freezing mixture, and thus temporarily arrest the hemorrhage, so as to allow of a more satisfactory prosecution of the subsequent steps of the operation.

In making the incisions in the congealed part, Dr. W. had observed it necessary to be rather more careful to maintain a firm hold of the knife, and to employ more force than in cutting the integument in its natural condition; otherwise the knife would slip off, and make an incision at some point not intended: this is, however, avoided by a little practice.

There are many cases to which the freezing mixture may be applied, but for more elaborate details reference must be made to the publications of Dr. Arnott, and other gentlemen abroad. In Europe this subject is at present attracting great attention, on account of the continued increase of deaths from chloroform.—*Boston Med. & Surg. Jour.*

EDITORIAL AND MISCELLANEA.

Advantages of Wilde's Instruments.—Communicated by J. Henry Clark, M. D., Newark, New Jersey.—I have found operations upon the ear, in my private infirmary, so greatly facilitated by a new ear-case, that I am induced to recommend it to the profession. It is made by carefully copying the instruments represented in the new work of William R. Wilde, of Dublin, republished in this country during the last year, which has done more for aural surgery and rational practice—indeed, *all* that has been made accessible to the American physician, since the publication of the work of Mr. Pilcher, which grew out of an essay written for the Fothergillian Medal in 1838. This work is more than a new book on the subject, it furnishes *advance*—it exhibits and proves, by tabular statements, that diseases of this organ are subject to the laws and are relieved by the same treatment as diseases occurring in some tissues in other parts of the body. This work divests some diseases of the ear of their obscurity, and explodes some obsolete views of pathology and practice. It is understood, however, that this book is but the harbinger of better days, and that one or more will follow directly, furnishing the results of a still larger experience and improved practice.

But my object was, mainly to speak of a case of instruments, which, in my office, I now regard as indispensable. The tubular speculum is very much better than any thing before devised to examine the drum. This case contains two of different sizes, also a gorget-like instrument, for a speculum, to facilitate operations; an ingenious caustic holder, an instrument for examination and another for cutting operations, with a long, bent forceps complete the case, except what I have found of more practical advantage than all others, a most ingenious instrument for the purpose of moving and removing polypi of the meatus edimas. I have used this instrument three times within a few weeks, and have been greatly gratified with its exact adaptedness to the purpose for which it is devised. Until something better is invented, this ear-case supplies a place never before filled, and furnishes an important desideratum to all who treat diseases of the ear.

Letter from Prof. Brainard.

CHICAGO, *Feb.* 10*th*, 1855.

TO THE EDITORS OF THE NEW YORK JOURNAL OF MEDICINE.

GENTLEMEN :—In a review of the late volume of *Transactions of the American Medical Association*, which appeared in the number of your journal for January, I observe two statements which deserve a notice from me, lest by silence I might be considered as acquiescing in the erroneous impression which they are calculated to produce.

The first is, that the prize essay of the volume is a translation from the French, of a pamphlet, by David Brainard. Independently of the error in the name, this assertion is entirely destitute of foundation.

The second is, that it was originally presented to the Society of Surgery, at Paris, and was the paper on the "strength of which" I was elected a corresponding member of that Society. This statement is equally untrue.

The paper which I read before the Society of Surgery, and on the "strength of which" I was elected a corresponding member, was "On the injections of Iodine into the cavities and tissues of the body for the cure of spina bifida, hydrocephalus, œdema, erysipelas, etc." The Memoir on Ununited Fractures, etc., was barely alluded to in the report of M. Monod on the subject

This Memoir was printed and distributed for the purpose only of securing my claim to priority in certain points. It differs in many important particulars from the prize essay; it was never read before any society, nor presented for a prize, or examination, or report of a committee. Even if it had been, I am well aware that such a circumstance would in nowise affect its claim to be considered original, and that it is now, according to the usages of the highest scientific bodies, entitled to compete for a prize before any society which offers one for an original essay. In proof of this I beg to submit, among many instances which might be cited, the following :—

Dr. Leroy d'Etiolles, Jr., received, in the year 1853, a prize from the Academy of Medicine, for a paper on the question of the existence of paraplegia, not produced by myelitis. Three years before he had published a paper on this subject, and in his prize essay he merely added some new facts to prove the truth of this original view on the matter.

In 1852, Dr. Parola received a reward from the same Academy, for researches on the action of ergot, the results of which had been published many years before.

Dr. Gray published, in 1852 [*Proceedings of the Royal Society*, Jan. 15th], a paper on the Structure of the Spleen, which paper was presented two years afterwards to the Committee for awarding the Astley Cooper medal. Mr. Gray received the medal. It is worthy of notice that the regulations respecting the essays submitted to that Committee were exactly the same as those published by the American Association. It is evident, therefore, that unless the American Medical Association enforces rules altogether unusual and peculiar to itself, and that without publishing them beforehand, my Essay on Ununited Fractures, etc., was justly entitled to compete for the prize which it received.

I hope, gentlemen, you will think it a matter of justice to give this communication a place in your Journal; by so doing you will oblige

Your obedient servant,

DANIEL BRAINARD.

Remarks.—We cheerfully give insertion to the foregoing communication from PROF. BRAINARD. If we rightly understand his language, our errors consist,—*First:* In having mistaken his name. This error is due to the *Transactions*, and for the credit of this volume for accuracy we regret the mistake. *Second:* In considering the Prize Essay a translation from the French of a pamphlet by David (*alias* Daniel) Brainard. Our statement may have been *literally* incorrect, but it matters nothing to our purpose whether the former was actually a translation from the latter, or *vice versa*, provided they are essentially the same articles. That they are in every *material* particular the same, a careful comparison justifies us in asserting, notwithstanding the above statement, that they differ in many important particulars. There are, it is true, several slight omissions in the Essay, of sentences occurring in the Memoir, and *vice versa*. The most important of these is an opinion in regard to the action of the chips made by the perforater, which occupies two-thirds of a page in the Essay, and is contained in a single sentence in the Memoir, and the addition to the former of three new cases, (two of them too meagrely reported to be of any value,) and the omission of one from the Memoir. These differences, however, are entirely unimportant, and do not render the Essay one whit more complete than the Memoir. *Thirdly:* In stating that the French Memoir was presented to the Society of Surgery, Paris, and on the strength of which the author was elected a corresponding member of that Society. We are willing to receive Prof. Brainard's denial as a sufficient conviction of our error. It would have been more satisfactory, however, if, instead of particularizing for what purpose this memoir was *not* presented to any society, he had stated explicitly whether as a whole, or *resumé*, it was ever brought formally before *any* society.

But the principal fact, and that which formed the basis of our former remarks, stands confessed by the author himself, that this Essay was published and circulated abroad before being submitted to the American Medical Association for its prize. This course Prof. Brainard justifies by referring to several examples, none of which, however, we can consider pertinent to his own case. In regard to the first two instances, it appears from Prof. Brainard's own statement, that some of the results merely of the authors' investigations were previously published, and not the complete essays which they subsequently laid before the prize committee. And so far from the paper, which Mr. Gray read before the Royal Philosophical Society, being, as asserted by Prof. Brainard, the same paper which was presented to the Astley Cooper prize committee, it contained, in fact, but a portion of the results of the investigations which form the basis of the elaborate work that has recently received a distinguished and merited honor. Quite different is the case of our National Association, which has bestowed its highest award of merit upon, and published in its annual transactions, an essay which is almost a literal transcript of a memoir recently published in France. We do not charge Prof. Brainard with duplicity or intentional wrong, for he evidently acted conscientiously and within what he deemed the legitimate purposes of the prize committee; but we believe the precedent thus established is dangerous and destructive to the objects contemplated in the establishment of an annual prize. The competition under the injunction of secrecy becomes a farce,—the encouragement and stimulus to original investigation and inquiry fails of its influence,—and the transactions of the Association take the subordinate and humiliating position of a medium for the republication of memoirs or papers already in circulation.—Eds.

American Medical Association.—The eighth annual meeting of the American Medical Association will be held in the city of *Philadelphia* on Tuesday, May 1, 1855.

The secretaries of all societies, and other bodies entitled to representation in the Association, are requested to forward to the undersigned correct lists of their respective delegations *as soon as they may be appointed;* and it is *earnestly* desired by the Committee of Arrangements that the appointments be made at as early a period as possible.

The following are extracts from Article Second of the Constitution:—

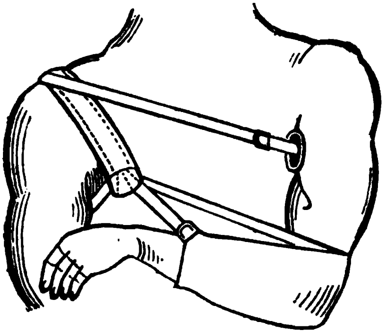
"Each local society shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half of this number. The Faculty of every regularly constituted medical college or chartered school of medicine shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital, containing a hundred patients or more, shall have the privilege of sending two delegates, and every other permanently organized medical institution of good standing shall have the privilege of sending one delegate."

"Delegates representing the medical staffs of the United States Army and Navy shall be appointed by the chiefs of Army and Navy medical bureaux. The number of delegates so appointed shall be four from the army medical officers, and an equal number from the navy medical officers."

The latter clause, in relation to delegates from the army and navy, was adopted as an amendment to the Constitution at the meeting of the Association held in New York, in May, 1853.

FRANCIS WEST, M. D., 352 *Chestnut St.*, *Philadelphia.*
One of the Secretaries.

Bartlett's Modification of Fox's Apparatus for fractured Clavicle.—We desire to call the attention of our readers to this very simple and effective instrument. The accompanying engraving will facilitate a conception of its application.



For an axilla pad, roll a strip of woolen flannel, 4 or 5 inches wide, around the axilla strap, to the size required. Put on the collar. Apply the pad, and pass the strap under the collar, thus securing each in its place. The sling, being first attached to the collar by the forward strap, is made to receive the arm of the side affected, when the straps at the back of the sling should be buckled, one behind, the other forward, to the ends of the collar, with the requisite tightness to reduce the fracture and maintain the ends in apposition.

The apparatus may be used for either side, by changing the attachment of the sling, as will be readily perceive. It may also be used for dislocation of the clavicle, fracture of the acromion process, and neck of the scapula.

American Medical Association. Prize Essays.—At the meeting of the American Medical Association held in St. Louis, (Mo.) in May last, the undersigned were appointed a committee to receive and examine such voluntary communications on subjects connected with medical science as individuals might see fit to make, and to award two prizes of one hundred dollars each to the authors of the two best essays. Notice is hereby given, that all such communications must be sent, post-paid, on or before the first day of April, 1855, to R. La Roche, M. D., Philadelphia. Each communication must be accompanied by a sealed packet, containing the name of the author, which will not be opened unless the accompanying communication be deemed worthy of a prize. Unsuccessful papers will be returned, on application to the Committee at any time after the first day of June, 1855; and the successful ones, it is understood, will be published in the *Transactions* of the Association.

R. La Roche, Phila., *Chairman.* Isaac Hays, Alfred Stillé, J. B. Biddle, G W. Norris, Joseph Carson, Joseph Leidy.

Philadelphia, Jan., 1855.

State Medical Society.—The annual meeting of the Medical Society of the State of New York was held on the 6th of February last, at Albany. There was an unusually large attendance, and a very marked degree of interest in the proceedings was manifested among the members. The session was continued three days and was principally occupied with the reading and discussion of papers. Prof. Frank H. Hamilton, of Buffalo, was elected president for the ensuing year. This is the first time that the western section of our State has been honored with an incumbent of this office, and a more worthy representative of its rising greatness could not have been selected.

OBITUARY.

Death of John W. Francis, Jr.—The subject of this notice was the son of the venerable Dr. John W. Francis, of this city. At the time of his death he was actively engaged in the study of medicine, and was a student of great promise. He was attacked with typhus fever while in attendance upon the lectures of the *University Medical College*, of which disease he died, after a short but severe illness, at the age of 22 years. His funeral was largely attended by the Students of the Class and profession generally.

Death of William Hyslop, M. D.—Died in this city, on the 26th of February, Dr. Wm. Hyslop, in the 26th year of his age, of typhus fever. Dr. Hyslop was a graduate of the *College of Physicians and Surgeons* of New York, and subsequently House Physician in Bellevue Hospital. He was a man of strong and generous impulses, warmly attached to his friends, and ardent in the pursuit of his profession.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

Art I.—*Remarks on the Military Hospitals of Vera Cruz, and the Diseases admitted in* 1853–4, *especially Yellow Fever and Vomito.*

By Dr. Gabor Naphegyi, Prof. of Medicine and Surgery, and Director of one of the Medical Departments of the Military Hospital, Vera Cruz.

From the different reports which have come to my knowledge through the newspapers of the United States, I notice that the yellow fever has, during the year, made its appearance in some parts of that country with far more virulence than ever; and that the number of victims was greater than in many previous years. From private letters received here, I have also learned that medical men, of various sanitary societies, have united in contributing each his individual observations made in his own practice, in order to discover, if possible, the means by which the progress of the yellow fever—that fearful destroyer of human life—may be stayed.

My situation as Professor of Medicine and Surgery, and Director of one of the Medical Departments in the Military Hospital of this place—my own observations in practice, and those of some of my able colleagues—have excited in me the desire to prepare a paper, containing all the different observations worthy of notice; and I shall feel most agreeably repaid for my trouble if they become in any manner serviceable, or if they only, in the furthest degree, contribute to throw light upon the obscure and still doubtful cause of the yellow fever.

But before entering into any scientific and particular description of the disease itself, I will introduce to the reader's notice, the establishment in which these observations were made.

During the period of one year, I had to visit the hospital regularly twice daily—sometimes also three times—and administer medical aid to never less than one hundred patients, while the hospital itself never contained less than four hundred sick persons.

Our establishment is divided into four departments, viz.: Sala de San Pedro, which contains all the surgical cases; Sala de San Martin, and Sala de San Jose—two medical departments; and Sala de San Lazaro, containing all the State and military prisoners. These apartments, or saloons, are each about one hundred and eighty feet long, sixty feet high, and twenty-one feet wide, and are clean, airy, and spacious.

At the head of each department is a physician, in the grade of a commander of battalion; another, not graduated, is his adjutant, in the military grade of captain, who never leaves the hospital, and whose duty it is to make observations during the day, and report them, at the visiting hour, to the head physician. Besides those already mentioned, there are a first and second practitioner, (a topikero,) and first and second apprentice, who have to dispense the medicines, and a chief of the saloon, who has the charge of distributing the provisions, and giving clean bed-clothing as often as it is needed. Besides these eight persons, there are in every saloon eight nurses, who have constantly to walk from bed to bed, and render all possible assistance to the sick and suffering.

The hospital has its own apothecary establishment, attended by a regularly graduated druggist, a man who for many years was owner of a drug store in one of the largest cities in Europe, and is, in all probability, the first chemist in the country. Two other *practicants* are given to his assistance, so that every possible chemical preparation required may there be produced.

At the head of this establishment, as well as of all the others belonging to the department of Vera Cruz, stands one of the most able and talented physicians and practitioners, Inspector General, Doctor in Medicine and Surgery, Don Adolfo Hegewish, a German by birth, but more than twenty-six years a citizen of this country.

To his comprehensive mind, his long experience in practice—to his talents, energy and constant activity, and the merited appreciation in which he is held by His S. H. the President; and to the liberal and benevolent mind of the present head of the Republic—who exerts all means to diminish the sufferings of the poor and sick soldiers—to them both, I say, must be ascribed the present favorable condition of this military hospital. I doubt if there exists in the whole Republic, or even on the Continent of America, a similar institution which is kept more cleanly, and better supplied with all necessaries for the comfort of the sick—medical assistance, medicines, nourishment, clothing, bedding, etc., etc.—than the military hospital of Vera Cruz. The same remark I have often heard made by visitors from foreign parts. The able Inspector, Don Adolfo Hegewish has, through his practical knowledge, proven how many of those diseases which generally become naturalized in hospitals can, by proper and right management, be up-rooted and totally banished; and how even the most fearful of epidemic diseases, when once raging in those establishments, can be combated, and forced to lose in a considerable degree its frightful appearance.

The objects of the present Medical Director, in his wise management, are two-fold: 1st. To supply the suffering human being with all possible medical assistance, and to render his practical knowledge useful in assisting the young practitioner, who has to combat the different diseases of those patients under his charge. 2d. To have the young practitioner profit by experience, and gather knowledge and information by daily observations; and to this end, every one of the physicians in whose charge one of the departments is placed, is obliged to keep a medical diary, in which he has to enter the observations made on every patient, from the hour that he enters to the hour that he leaves the establishment, either restored to health, or borne to the eternal resting place—the grave. When the case terminates fatally, the cadaver, in the presence of all the physicians of the hospital, and under the immediate inspection of the Director himself, has to be dissected; and the physician, who had the deceased in charge, has to relate the whole history of the case, from the hour that he took the patient in his charge until the hour that he expired—the symptoms, changes which occurred during the period of the disease, treatment, etc.

The autopsy, in connection with the verbal report of the physician, is the immediate proof in how far the diagnosis was right or wrong, where the mistake occurred, if there was any other disease than that assigned, or what caused death, etc.

These kinds of dissections naturally afford sufficient matter for the observant and attentive student, and the hospital thus becomes a practical school, in which the young military physician makes daily progress, and gathers hourly more information than many a physician in several months' private practice. These remarks lead me to assert, that during an engagement of one year, I witnessed, myself, over three hundred dissections, of which, at least, sixty were made by myself.

But among all the different diseases to which the human system is subject, and which in the course of one year have been treated in this establishment, to none have I more particularly and exclusively directed my attention and study, than to that of the yellow fever and vomito. From the first day of the month of July, 1853, to the last day of the month of September, 1854, there have been under medical treatment in the military hospital of this place, nine thousand five hundred and eighty-seven sick, of which number eight hundred and thirty died.

The mortality this year has been far less than that of the previous one, for the following reasons. The establishment, under the presidentship of Arista, was neglected; the poor and helpless soldier, when he became sick, and entered the hospital, was not laid in a bed, but on the naked, cold and damp ground. There were no bed and bed-clothes, and the sick, in consequence, were exposed naked on the floor. That this circumstance contributed materially to advance the progress of the disease, it is natural to conclude. The former physician in charge of the hospital neglected his duty, or regarded it only as an office which contributed to his pecuniary interest. Neglect and abandonment were visible on all sides. The government of Arista paid little attention to the condition of the soldier, when once sick and helpless. The selection of good physicians for military hospitals, and a careful inquiry into the manner in which they discharge their duties and obligations, were matters of no importance; and thus the establishment called a hospital, where the sick sought for help, was nothing else than a den where pestilence guarded its entrance, and vermin covered the reeking walls —where human beings were placed only to become the more sure victims of death, from the respiration of a foul air, capable of corrupting and poisoning the most healthy constitution.

The present Administration, immediately after taking the reins of government in its hands, directed its attention to providing a home for the suffering soldier. This duty was given in charge of the above-named gentleman; and, from the moment that he entered upon his task, his efforts have been unremitting to eradicate those diseases which generally, when no attention is paid to the condition of public charities, colonize themselves in public infirmaries and hospitals, and, once rooted, produce the most fearful epidemics.

The mortality in the military hospital of this place diminished not only gradually but most remarkably, and the more the improvement advanced, and the more attention was paid to the condition of the hospital and the care of the sick, the less frequent did deaths occur. The extracts which I here annex will prove the truth and force of the above remarks.

In the month of July, 1853, there were under treatment 518 patients, among whom were only 18 cases of vomito, and 87 deaths; while in the same month of this year, there there were 805 sick, 165 cases of vomito, and only 23 deaths. The total entry and deaths from the month of June, 1853, to the end of September, 1854, were as follows:

Month.	Entry.	Exit.	Death.	Month.	Entry.	Exit.	Death.
1853.				1854.			
June, ...	319	107	76	January, ...	583	241	25
July, ...	344	164	87	February, ...	587	263	21
August, ...	675	250	72	March, ...	769	304	34
September, ...	741	233	101	April, ...	768	296	48
October, ...	640	160	96	May, ...	925	376	69
November, ...	524	196	37	June, ...	872	263	75
December, ...	508	189	14	July, ...	590	215	23
				August, ...	653	260	29
				September, ...	833	250	26

The different diseases which were treated, and which are more or less frequently admitted, are as follows: the black vomit, yellow fever, (I make a difference between the former and the latter,) typhus and typhoid fever, pernicious, intermittent and bilious fever, scarlatina and small-pox, inflammation of the lungs, bronchitis, virulent diarrhœa, and dysentery, occasional cases of congestion of the brain, syphilis, etc.

From the month of March to the first of October, I had under my treatment 1202 patients. Among them were of—

Vomito, . . .	132—80 in the month of May only.
Dysentery, . . .	85.
Intermittent fever, .	206—59 in the month of September.

Pneumonia, . . .	68—18 in the month of March.
Diarrhœa, . .	59.
Pernicious fever, . .	13.
Typhus fever, . .	75.
Bilious fever . . .	33.
Syphilis, ...	54.
Consumption, . . .	32

These different diseases have certain periods in which they have appeared like an epidemic, and many of them, especially those which are ranged in the class of fevers, under a peculiar and different character. In the month of February, pulmonic diseases are so frequent, that it can be asserted with certainty that they amounted to at least twenty or more per cent. of those who were treated in the hospital. The months of April and May are the months of the vomito, while in the months of August and September intermittent fevers have their period; and it is frequently the case that those who have had the vomito in the month of May or June, have generally an attack of the intermittent fever in the above-named months. Dysentery has no fixed period, and is interesting only in the difference in its character, at different periods.*

---

* I may here remark, that dysentery in a climate like that of Vera Cruz is a most dangerous disease, and the attending physician often finds dysentery a more difficult disease to manage than vomito. My usual treatment in the year 1853 was the following:—

℞.

Sub. Nitrat. Bismuth,		ʒii.
Opii. puri	gran.	ii.
Bicarb. Sod.		ʒii.

M. divid. in four parts.

or ℞.

Ipecacuanhæ	gran.	vi.
Opii Crudi.	gran.	ii.
Pulv. Rad. Althea,		ʒi.
Cinam.		℥ii.

M. divid. in twenty parts.

With this foregoing powder I administered the following injections.

℞.

Amylum,		℥ij,
Argent. Nitrit.	gran.	vi.
Laud. ex Sydenh.		ʒi.
Mucilag. Gum Arab.		℥v.

M. Sig. for one injection.

From observations made in the department of which I have charge, all the above-named diseases may be quite certainly arranged in the following classification, viz.:

Vomito in the summer months,	20 per cent.
Yellow fever,	5 " "
Inflammation of the lungs,	6 " "
Dysentery,	15 " "
Intermittent fever,	30 " "
Pernicious, "	5 " "
Brain (Fievre typhoidea),	3 " "
Typhoid,	6 " "
Typhus,	5 " "

Observation leads me to believe, that the atmosphere is the great influential cause of the "black vomit." The part of the animal body to which I would assign the seat of this disease is the blood, and its great supporter is the atmosphere. The human being belongs to that class of animals called warm-blooded. Every forcible loss of blood weakens the production of heat in the body, and every part in which the circulation is interrupted becomes cold.

The animal heat has a great influence upon those epidemic

In more difficult cases, I gave the following:

℞.

Creosot		℥.
Sulph. Morph.	gran.	ii.
Pulv. Rad. Althea.	.	℈iss.

M. Sig. in six parts.

But the best result obtained was the following:

℞.

Acidum Sulph. medicinal,		ʒii.
Tinct. Opii.	gut.	xl.
Syrup simpl.		ʒiss.
Aqua simpl.		℥vi.

M. Sig. to take in six parts after every operation, with the following injections:

℞.

Mucilag. Gum Arab.	℥v.
Acid Tanini,	℈iss.
Tinct. Opii.	ʒi.
Pulv. Carbon vegetal.	ʒi.

diseases which rage only in the southern climates. Animal heat is a result of the combination of those two constantly acting elements of our bodies, carbon and oxygen. The first is derived by the process of digestion from the food received into the body; the latter by inhaling the oxygen which is contained in the atmospheric air. These two gases, by uniting in certain proportions, produce a constant combustion, and are the sole causes of animal heat.

Animal heat is then exclusively the great supporter of animal life, and, as before mentioned, the great motive-power of the blood. In its production, only a certain quantity of food which yields the carbon, and only a certain quantity of oxygen, are required to support the circulation and maintain the animal heat in its proper state and limits; but when more oxygen is received than is necessary for the combustion of the carbon, instantly the regular course is interrupted, and an immediate change in the body is produced.

Nor at all times does the animal body receive the required and necessary quantity of oxygen; for as this gas is only taken out of the atmosphere, it is readily perceived why the different and sudden changes of the atmosphere and climate produce so many alterations and diseases.

The atmospheric air is one of the most powerful agents. Through its elasticity, it acts like a tonic bath to the surface of the body; it absorbs all the bodily evaporations which without its assistance would suffocate us, and is the most proper conductor by which the superabundance of animal heat is removed. In the atmospheric air the electric phenomena are exhibited—that mighty influence upon the animal system which is a still undiscovered and unknown power. Without this powerful agent, one of the principal functions of our economy, the perspiration, would not be possible.

And in this function it acts, not in the mechanical way, but receives and gives to the blood that mixture, through which only the animal and chemical process can be supported, and the action of the *vis vitæ* maintained in all organs. Through this latter mighty and powerful agent, the atmosphere maintains the existence of animal life. It produces health and disease, and, in proportion to its change, force, etc., is the class of diseases changed. A humid air weakens the *tone* of the harder tissues, and increases the activity of the vital power. For instance: owing to a humid and cold air, in moist autumns, in winters without frost, diseases of a different kind prevail. This condition of the atmosphere produces generally catarrhal diseases, local inflammations, gout, etc.

Heat, on the contrary, increases the activity and irritability of the capillary system, and tends powerfully to promote in the different organs the chemical and vital changes. Therefore, in hot climates, we find those diseases which are influenced by the cause just mentioned prevailing with more virulence, running a more rapid course; and of a more dangerous character, than in the temperate latitudes. May not experiments, based upon these facts, demonstrate in how far the atmosphere is a great, if not the first destructive agent of the healthy constitution, and gives rise to a disease like the vomito?

In Vera Cruz the vomito generally commences with the beginning of the summer months; and this is another evidence that the atmosphere acts as a principal agent in its production. This is explained by the fact, that in these months we have generally the winds from the south and west, prevailing during this entire period; while in the autumn and winter months we have the north wind. The former are therefore the unhealthy, and the latter the healthy winds. And this is not only the case here, but it seems to be a law prevailing over the whole globe. The Harmattan in the interior of Africa have a healthy influence; and when these winds begin to prevail, all the existing epidemic diseases cease, and the sick are again restored to health. Opposed to this wind is the Sirocco of the Italians, or the Samum in the desert between Bassra and Bagdad, which is very dangerous to the Arabians.

Our north winds produce generally inflammation of the lungs, intermittent fevers, rheumatism, etc., while the warm and moist south winds produce generally typhoid fever, and, in the fatal summer months, the vomito. The sudden change to a cold north wind, as it frequently occurs following a south wind, fills often in a single day our establishment with patients complaining mostly of catarrhal diseases. So far in regard to my observations upon the atmosphere, and its influence upon the health, and more particularly upon the appearance of the vomito.

But in concluding this remark on the influence of the atmosphere, I will illustrate it with an example. All foreigners, as well as natives of the interior of the country, in coming to this place in one of the summer months, are almost without exception attacked by the vomito. The reason of this may be easily understood. Vera Cruz is situated on the level of the sea, in the degree 19 of latitude, and 98 longitude; it belongs naturally to the hot climate of the tropical zones. Jalapa, situated at only a distance of twenty-five leagues, is four thousand three hundred and thirty-five feet above the level of the sea, and is one of the most healthy localities in the republic.

Supposing now a resident of Jalapa comes to Vera Cruz. Let us examine what effect the change of climate will have upon him.

The change of temperature is so great that it must have an immediate effect upon his system. The heat is oppressive, he perspires in abundance, experiences a sense of languor in all his muscular exertions, his nights are sleepless, and the body deprived of its natural repose. Though no disease has yet attacked him, he is an altered man. Without making any change in his diet, he takes the same food as the natives —food too strong, too nutritive for the climate. He is deprived of his free and refreshing mountain air, and is on the contrary exposed to the hot and unhealthy southern winds. How can it therefore be expected that such an individual will remain healthy, with all these physical changes in his system?

The blood then, and the capillary and vascular system are the first to suffer on the appearance of the vomito. I must not omit to remark, also, that on the different constitutions of different individuals depends, in a great measure, the progress of the case, and even the attack, for different constitutions are unequally affected by irritation. In some cases I was led to believe that the first feverish irritation commences in the skin, and through the capillary system is conducted by the vascular system to the whole body.

The foregoing remarks and observations make it unnecessary to explain that, as I assign change of climate, the influence of the atmosphere, and the change of the quantity and quality of the blood, as the primary causes of the vomito, this disease is not, like some other epidemic or endemic disease, a local, but on the contrary a general disease of the system.

Symptoms of Vomito.—The first symptoms which accompany the vomito are principally and first of all, *the activity and vivacity of the pulse.* The cause of the feverish pulse is the high state of irritability of the arteries and of the heart.

To enter more particularly into the examination of the feverish pulse in the vomito, I made my observation according to the standard of Falconer.

The normal state of the pulse between the thirtieth and fortieth years of life, in the female, is generally eighty-four, but in the male seventy-five only in a minute, although the mode of life, temperature, activity of the body and of the mind, and the time of day, etc., produce a great change in different individuals. With this standard I compared the state of the patient in vomito. The pulse at first rises gradually. If in its natural state it is seventy-five, in the first six hours of the attack it beats from eighty-five to ninety in a minute. In the next six hours it reaches one hundred to one hundred and ten. In the first twenty-four hours, I have observed patients with a pulse ranging from one hundred and thirty to one hundred and forty-five; and cases are not unfrequently met with where there are one hundred and sixty pulsations per minute.

To these symptoms of the vomito belong also others which take their origin in the nerves, and which generally appear in all fevers. To this source must be attributed frequent yawning, pain in the extremities, foamication, an unpleasant painful sensation in the spine and vertebral column, headache, dullness, etc.

In the vomito, the blood drawn from a vein is often deprived of its coagulability and remains liquid, and the blood-water, or serum, takes a reddish appearance. Often the extracted blood has an uncommonly obscure, and sometimes again a light reddish color. Especially remarkable is the surface of the extracted blood in the vomito, its appearance being similar to that of fevers with the character of the synocha, or inflammation.

To the changes under which all the liquids of the human body, in the disease of which I treat, suffer, belongs also the urine. With the commencement of the vomito the urine is pale and without a sediment; but as the disease advances, the color of the urine becomes more obscure, and the sediment forms only a considerable time after it is separated from the body.

But sooner or later, the urine undergoes a change; it loses its reddish color, and assumes by degrees a pale appearance. The urine, however, which was passed in the highest stage of the disease, has a red sediment, and retains its former color without change.

The more the disease becomes complicated, the more abundant is the sediment; but toward its termination the sediment diminishes, and disappears altogether.

The quantity of the salts of the urine in the vomito depends on the high, irritated, or low state of the fever. In the beginning of the disease, that is to say, in its first stage, the phosphates are in small quantity, or altogether absent, while the urates are never present until the fever has advanced.

I have observed, also, that both the phosphates and urates were present in the urine when the vomito, as is often the case in the months of September and October, takes the character of the intermittent or remittent types.

After the crisis, which is generally the fifth or the seventh day, both the phosphates and urates diminish gradually in their proportions, and exist then as in the normal state of health.

Treatment.—In regard to the treatment of vomito, it is merely necessary to indicate the general method by which it was successfully treated in our hospital. It is as follows: First, Extraction of the blood; second, Purgatives; third, Artificial perspiration; and lastly, Artificial irritation of the skin.

ART. II.—*Ulcers over the Patella causing Necrosis, and followed by Suppurative Inflammation of the Knee-Joint.* By JOHN O. STONE, M. D., late Surgeon to Bellevue Hospital, N. Y.

MESSRS. EDITORS.—In the September number of your Journal for 1854, among the "Amputations of the Lower Extremities at Bellevue Hospital," I mentioned two cases, in which ulceration over the patella led to necrosis of the patella, to inflammation and suppuration of the joint, and finally to amputation of the thigh, for the purpose of saving life. From the experience then acquired, I stated that we were authorized to look with suspicion in cases of ulcers so situated, and consequently to be guarded in our prognosis.

Below I have recorded a new case, the *third* one in which ulceration over the patella was followed by necrosis of this bone. In this case, a slight accident subsequently caused a compound fracture of the patella, freely laying open the whole joint, but which fortunately terminated in recovery without a resort to amputation.

These three cases of an ulcer thus situated, and leading to such grave consequences, must, as it seems to me, be rare in any single person's experience. They are novel and extremely valuable, for they teach a lesson which cannot be learned from any work on Surgery. For these reasons I am anxious to call attention to them, and shall feel obliged if you can find room in your Journal for this publication.

The case reported below, beside being valuable for the points already alluded to, is remarkable for showing that extreme laceration of the knee-joint does not necessarily require amputation. No constitutional symptoms, not even an acceleration of the pulse, followed the accident. This absence of bad symptoms is to be attributed to the size of the wound, which allowed the pus to escape readily as soon as formed. If the wound had been a narrow one, we should undoubtedly have had excessive pain and fever, which would probably, in the end, have destroyed life or required amputation.

Since the question of freely opening suppurating joints is now attracting much attention, any case which confirms or contradicts the practice is deserving of record. I need not add that my opinion is in favor of the new mode of treatment. Truly yours,

JOHN O. STONE, M.D.

30 WAVERLEY PLACE.

Case—Ulcer over Patella—Necrosis and Fracture of the Patella—Extensive Laceration of the Knee-Joint—Recovery.

OCT. 11th, 1854. Mrs. R., aged 30 years, was, about six months ago, a patient at Bellevue Hospital, for an ulcer over the patella. This ulcer did not heal, but extended to the patella, and exposed it to the air. The limb was kept extended upon a straight splint, and she was not allowed to leave her bed. She was pregnant, and on this account decided to leave the hospital in order to be confined at home. She was warned of the dangers that might arise to the joint from neglect or carelessness, and was informed, that if the knee-joint should become inflamed, that her life would be endangered, and that she might be obliged to have the limb amputated. She left the hospital with the injunction to send for me in case the knee should become affected.

In the latter part of August she sent for me to come and see her at her residence. The patella was found broken, and the integuments lacerated transversely from one side of the joint to the other, and the joint laid freely open, so that I could introduce my finger, and feel the heads of the femur and tibia.

Her history since she had left the hospital was as follows: She had continued to attend to her household affairs until the 12th of August, although a piece of bone of the size of the tip of the finger had separated and come away from the patella. At the above date, on leaning out of the window to shut the blinds, her foot slipped, the leg flew backward, and she fell to the floor; the knee was torn and the patella broken, and she could not stand upon the limb; on the following night, i. e., on the 13th of August, she was taken in labor, and delivered prematurely. She had never suffered much pain, and now the edges of the wound are covered with luxurious granulations. She has not, and never has had any constitutional fever.

I put her upon quinine and porter, with nourishing diet, and enveloped the knee in a gutta-percha splint, and she continued to nurse her child. Early in September, finding that she was destitute of all comforts, from the neglect and desertion of her husband, I persuaded her to enter Bellevue Hospital again. She entered the hospital, and the whole wound healed without a bad symptom, with the exception of a small portion of the integuments, when she again returned to her home, and walked thence to my office, fully the distance of half a mile, using a cane only.

Jan. 25th, 1855.—She sent for me to visit her. She was attending to her domestic affairs, and depending for her support upon the charity of her neighbors. The neglect and ill treatment of her husband had rendered her careless and desperate, and she had acquired the habit of intoxication. She had gained flesh and strength, and walked without a cane. In one of her fits of intoxication she had knocked her knee, and had caused a new ulceration of the integuments. The gutta-percha splint was still worn. The wound into the joint was perfectly healed. She was destitute, and I sent her to the hospital again.

March 10th.—The patient has, I am informed, now left the hospital perfectly recovered, and, what is remarkable, the joint was not anchylased.

ART. III.—*An Inquiry into the Nature of the Anomalous Affection known in the United States by the appellation of "The Nursing Sore Mouth," or "Puerperal Anœmia."*[*] By M. L. KNAPP, M. D., late Professor of Materia Medica, etc., etc.

I. Present State of Medical Knowledge.—Views of Correspondents.—Abstract of Literature.—The Writer's Views of the Nature of the Affection.

THE term Nursing Sore Mouth is so well understood to mean a peculiar form of disease to which suckling women are subject, that its adoption, though it be popular rather than professional, cannot lead to any mistake. There may be some practitioners who have never encountered this disease at the bed-side, and possibly those who have never heard of it; yet there are numerous physicians who have met with it and found it a very serious and obstinate affection. The silence in the main of standard or systematic authors on the subject; the omission in the arrangements of the best nosologists of any affection of the mouth peculiar to lying-in women characterized by the phenomena that are manifested in this complaint; and the testimony of the Journals, nevertheless, that such an affection does exist, is often met with, and is greatly on the increase in some localities; render it, most decidedly, a proper subject of inquiry, particularly in the absence of any clear or satisfactory views from those under whose observation it has more frequently fallen, as to its nature, pathology, and rational method of cure. To deny that a peculiar, lingering form of disease, often of very grave severity, characterized by anæmia, debility, and other phenomena of which soreness of the mouth constitutes a prominent local symptom, now and then attacks women in the state of lactation, and persists, sometimes, in spite of all the remedial measures brought to bear upon the case, finally either proving fatal or terminating in a slow and gradual recovery incident to circumstances, as the removal of the infant from the breast, change of season, etc., rather than the administration of medicines, would be to shut our eyes to facts and experience. The history of hundreds of such cases is annually unwritten, willingly oblivionized among the unrecorded transactions of groping practice: and yet these cases are not wholly lost, for they reach us from the nursery as the reminiscences of many a delicate mother's past sufferings, and forebodings of their re-occurrence, constituting some of the oral literature of this dreaded affection. There are few practitioners, we opine, who have altogether escaped these popular traditions of the Nursing Sore Mouth affection.

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[*] The researches made by the writer in preparing this Essay during the winter of 1853—4, led to the investigations into the Cause of Cholera which were published in the January number of this Journal.

The recorded literature of this disease is made up of the brief articles on this subject that have from time to time appeared in the medical Journals. Some of these are mere notices that such an affection has been met with, accompanied with the recommendation of a favorite remedy, perhaps, while others contain well-marked and well-drawn-up cases of the disease. We propose as a starting point in our inquiry to canvass what is known and what has been published on the subject, so far as we may be able to reach the files of the Journals. It is probable an article may here and there be overlooked, but sufficient testimony will appear to establish very clearly the grave character of the malady; that it is nowhere understood, every where treated empirically; and that it has hitherto failed to receive such careful investigation at the hands of any member of the profession as to settle the question of its pathology and treatment. Prior to glancing into the Journals, however, we will offer the original views of our correspondents, elicited by the following circular, two hundred and fifty copies of which were distributed to leading practitioners of the United States. We will not marvel that only three medical gentlemen have responded. These three contributions on the subject, however, are valuable. They establish the grave character of the malady, the want of any exact knowledge of its true character, and the further interesting facts that it has puzzled, perplexed and engaged the attention of the profession in sundry parts, and that it is looked upon as a subject of sufficient general interest to demand a searching inquiry. Our acknowledgments are hereby tendered to the courteous gentlemen who kindly responded to the call.

Circular.—Cincinnati, Dec. 22, 1853.—DEAR SIR: My apology for trespassing on your time and attention is the following, to wit: I am instituting some inquiries into the nature and history of that anomalous affection known in the United States by the popular designation of "*Nursing Sore Mouth.*" Attention has been briefly called to this disease through some of the Journals as a form of "*puerperal anæmia.*"

Having encountered the disease in localities widely apart, and having conversed with physicians in different States who had met with it frequently; I am led to think that it occurs more or less in all the States and British Provinces, but more frequently by far in some localities than others. Although it is believed to occur thus extensively, and so frequently during some years that it may be said to be a not uncommon form of disease, still little is understood of it except empirically, and it is consequently treated with very variable results, the majority of well-marked cases proving obstinate, running a course of some months, and in many instances yielding only with a snail's pace, after the removal of the puny infant from the breast, which dernier resort seems to be a *sine qua non* in the recovery of inveterate cases.

Its literature, I think, is limited to a few fragmentary notices, that have appeared in the Journals within the last few years: nothing is said of this obstinate and sometimes fatal form of disease in our elaborate treatises on Practice and Diseases of Women.

Presuming that this anomalous and nondescript form of disease has come under your notice, and that you will feel an interest in contributing to its elucidation, I respectfully request you to call to mind your cases of "nursing sore mouth," and the impressions they have left on your mind, and, at your earliest convenience, to draw up and forward to me by mail your observations and experience on the subject. My object is to arrive at just conclusions by means of more extended data than my own observations afford. This appears to me to be a legitimate mode of investigating the subject, and the only practicable method perhaps, for the disease seems to shun the lying-in wards of hospitals (or we should have heard something of it), and to occur wholly in private practice.

Should I be so fortunate as to arrive at any practical deductions deemed of general interest to the profession, and worthy of publication, the condensed views or points of practical importance (and, if not too copious, the views in full) of my correspondents will also appear, that each may receive the award of merit due to his own observations. Allow me to add in this connection that it will give me pleasure to reciprocate the favor at any time you may call on me for a like civility.

Having made known my object and wishes in a general way, I now take leave to call your attention to a few points in detail I wish your answer to cover, which, for your more convenient reference, I have numbered.

1. Topography of your region of country, and how long settled; agriculture and products; state of horticulture and orcharding; general character of disease?

2. Number of years in practice; number of cases of nursing sore mouth met with; history, symptoms, treatment, duration, result, of one or two cases as types?

3. If death has resulted in any case, the mode or manner in which it took place?

4. The effect of the disease in the mother on the child; if the infant died, or was removed from the breast, the effect of a suppression of lactation on the progress of the case?

5. Whether cases have occurred more frequently in some years than others; if so, the character or constitution of those years as to temperature, snow, rains, frosts; whether the crops and fruits were blighted or short; season of its development?

6. Whether attacks have occurred oftener after first confinement than in subsequent ones?

7. Whether attacks have occurred oftener after very severe labors, flooding, or other prostrating accidents of delivery?

8. Whether you have known an attack follow abortion, or parturition where the infant was still-born, or was removed from the breast and lactation suppressed?

9. Whether the disease has ever to your knowledge made its incursion before delivery; and if so, the effect of parturition on the case?

10. Whether, within the range of your observation, other females than those in a pregnant, puerperal, or suckling state, have suffered an attack of this form of anæmia; and if so, whether concurrently in the same family where a nursing female was laboring under it?

11. Whether, according to your observation, it be a disease peculiar to women; or have you met with the same morbid diathesis and assemblage of symptoms in males, during years of the greater prevalence of this disease?

12. Whether you have noticed in seasons of the more frequent occurrence of this affection, a prevalent morbid diathesis that seemed to aggravate and render more intractable the common forms of disease?

This covers all the points I wish to have categorically responded to; but any views of your own—any facts or deductions from your practical experience and observation, throwing light on the etiology, pathology, or treatment of this affection, will be thankfully received.

Dr. Ellsworth's Reply.—Hartford, Jan. 21, 1854.—DEAR SIR: Many duties have hitherto prevented an answer to your favor of the 22d December. Your letter was handed to a physician having more extensive practice than myself in the department of midwifery, but as he insisted on my writing, you shall have all the information I possess: the questions shall be answered briefly, at least as many of them as it is in my power to answer

1. Hartford is partly built on the alluvial of the Connecticut River valley, but the county is mainly primitive. The farms are rich, highly cultivated, and possess good depth of soil. Diseases in our valley generally assume a typhoid type, and do not bear the lancet as well as in higher portions of the State, and my impression is that V. S. is not as well borne as some years since.

2. My present experience extends back only fifteen years. The disease under consideration is not of very frequent occurrence, though common enough to excite earnest desire for its amelioration. The treatment, symptoms, etc., have been discussed by our City Medical Society.

3. As a general thing patients have recovered, though weaning has occasionally been necessary to effect this. I have known no case of death from the disease alone.

9. I had a very severe case commencing nine weeks prior to labor; the patient had nearly died from the disease with a previous child, in which case also the complaint made its appearance prior to delivery. She recovered, and I think without removing the child.

The treatment is simple, consisting of good support by way of food, bark with lime-water, carb. ferri, carb. sodæ, and particularly porter. Almost every thing tonic is useful, but especially the articles mentioned.

The minutes of our Society present but little worth mentioning in addition, except a statement made by Dr. Miner that he knew a severe epidemic of it in Berkshire Co., a mountainous region in Massachusetts, in 1832, and another at Middletown, in Connecticut, in 1836. Dr. Sumner also stated that he found persons subject to this complaint more disposed to phthisis. He had known the disease occur as early as the fifth month of pregnancy. Local treatment does not appear to be particularly serviceable. Some of the questions remain unanswered, because I must either give a negative answer or one of no particular service to you. Hoping what is recorded may be useful to you, I remain, yours, truly, P. W. Ellsworth.

Remarks.—Dr. Ellsworth's contribution establishes the fact very clearly that the disease in question is not confined to the period of lactation, for he observed its occurrence twice in the same female, and on both occasions it made its incursion before delivery. Dr. Sumner also had observed it as early as the fifth month of pregnancy. It is not, therefore, *caused* by the drain of lactation, as has been supposed. Dr. Ashwell, in considering the complaints developed by undue lactation, makes no mention of any malady similar to the nursing sore mouth affection. We thus establish one point in our investigation, viz.: that the disease is not an affection peculiar to *nursing* women.

Again: another fact of much importance is derived from Dr. Miner's statement in the discussion of the subject before the Hartford Medical Society, viz.: "that he knew a severe epidemic of it in Berkshire Co., Mass., in 1832, (the year of the cholera,) and another at Middletown, Ct., in 1836." The fact established is, the greater frequency of the disease in certain years, amounting to an epidemic in some localities. This accords precisely with our own observations; and if the constitution of those years, as to temperature, snow, rains, frosts, state of the crops and fruits had been given, as called for by our circular, very important deductions, we opine, might be drawn from the premises. In the absence of said particulars we must depend on our own knowledge in the matter.

The winter of 1831–32, was the coldest winter, according to our recollection, we have ever experienced. The harbor of Baltimore, where we then resided, was closed by ice about four months—the Chesapeake Bay was almost frozen across at Annapolis, a circumstance which was then stated in the public prints to have occurred but *once* since the settlement of Lord Baltimore's colony—the harbor of New York it was conjectured might be closed by the ice that winter—we participated in a sleigh-ride, the thermometer at zero, in the month of April, 1832, and the snow well-nigh a foot deep. The Asiatic cholera swept over the United States in the summer of 1832, and what influence the very rigorous winter and retarded spring exerted upon the human constitution in the United States toward rendering it liable to attack, has never been inquired into. That the constitution of the seasons and state of the crops and fruits have very great influence over epidemics there can be no manner of doubt; and while our observations tally with those of Dr. Miner as to the occasional epidemic prevalence of nursing sore mouth, we can as emphatically declare that its epidemic manifestations occur *invariably* after cold winters and retarded springs, accompanied with a scarcity of vegetable supplies. The coinciding fact, therefore, of nursing sore mouth occurring in epidemic form, in Berkshire Co., Mass., a cold mountainous region, in 1832, after an uncommonly rigorous winter and a cold retarded spring, is another point made in our inquiry.

As to the epidemic of 1836 at Middletown, Ct., this is not quite so clear. We incline to the opinion that Dr. Miner is mistaken in the date, and that it occurred in 1835, the year of its epidemic occurrence in the West, complicated with other epidemics, as will more fully appear in our chapter on the topography of Illinois, where we discuss the metoric phenomena and constitution of these epidemic years.

In regard to the treatment given by Dr. Ellsworth, we wish particular note to be taken of the good support by way of food, porter as a drink, (full of carbonic acid,) and the preparations of *soda*, *lime*, *iron*, etc., recommended. There is application yet to be made of the principle before we have done, illustrative of the why and wherefore of the efficacy of these acids, salts, alkalies and tonics, combined with wholesome nutrition.

Dr. Hall's Reply.—*Glasgow, Jan.* 26, 1854.—DEAR SIR: Your circular letter bearing date Dec. 22, has been in my possession several weeks, and would have received an earlier response but for the presence of other engagements. Upon its reception I bestowed upon it a careful perusal, and cannot refrain from expressing a hearty commendation of the enterprise you have embarked in, and, so far as any coöperation upon my part may conduce to the results to which your investigations are directed, it is most cheerfully granted. In responding to your inquiries, I have to mention two circumstances which I very much regret should exist—in the first place, the instances of this anomalous affection have been limited; but more especially do I regret that my observations in reference to these cases have been without that systematic accuracy, in the absence of which, facts in a great degree become valueless as materials for etiological, pathological, or therapeutical generalization.

During the last three years, which embraces the period of my acquaintance with this, as a distinctive type of disease, I have, in some manner, been connected with the treatment of five or six well-marked instances of "puerperal anæmia," besides several cases of minor importance, in reference to which I have been casually consulted. The gravest case which has presented itself to my observation, occurred in the person of a lady who was a resident of Logan Co., in the southern part of this state, and who was at the time I saw her (Aug., 1853,) on a visit to her friends in this neighborhood. This was a very characteristic case. The subject, æt. about thirty-eight years, is habitually anæmic, strikingly deficient in the nutritive function, so much so as to present a very pallid, exhausted appearance, and the buccal affection has regularly recurred, in the early period of lactation, since the birth of her second child—having had six, I believe. The infant then at the breast was about four months old, and from the history of the case elicited from the attending physician and her friends, her general debility increased, and her health continuously declined to this period, when the symptoms had become extremely aggravated. She had been confined to her bed and utterly helpless for fourteen or fifteen days when I first saw her—entire buccal membrane covered with aphthous inflammation, with numerous patches of small ulcers, several large ulcers occupying the edges and inferior surface of the tongue, and some isolated spots of ulceration on the inner surface of the lips, profuse salivation, (not mercurial,) much complaint of vitiated taste with anorexia, pulse 125, and very feeble, with a very low grade of febrile reaction of a regularly remitting type, muscular and nervous exhaustion complete, with extreme feebleness of circulation. So distinctly remitting was the accompanying fever, in this case, that it seemed so urgently to demand an anti-periodic, that such a measure was resorted to and met the indication very happily.

This imperfectly-descriptive history is equally applicable to two others, the most malignant cases of the disease, with the one described, of which I have any knowledge; and in both these instances the subjects were likewise non-residents of this (Barren) county. One, a young married lady of Gallatin, in Tennessee, came near sinking under a protracted attack, the onset of which dated with the establishment of lactation after the birth of her second child. The other subject of this vitiating infirmity is a resident of Louisville, and, as I have been informed by her sister, who resides in this place, like the first-named case, it has become so much a constitutional vice as to be habitual with each returning period of lactation. The two females last adverted to seem in a good degree to regain and retain their health and vigor throughout the menstrual cycle, but the health of the first is hopelessly dilapidated, though she is measurably free from the essential symptoms of "nursing sore mouth."

The remaining several instances of the affection, which have been presented to my notice, put on a milder form, yet sufficiently serious to become objects of regular medical attention; presenting in a marked manner the conditions of an impoverished circulation, a depraved state of the nutritive and assimilative functions, with the more specific local lesions stamped with a less or greater degree of distinctness, in accordance with the mildness or intensity of the attack.

As to therapeutical relations, I conceive that these are, to some extent at least, deducible from the manifest pathological features of the disease. I can but regard the diseased condition as constitutional, consisting mainly in a lesion of nutrition. It may become a question as to where the first link in the chain of morbid actions is to be riveted; but as for my own part, I have learned to regard a vitiated action of the organs of primary digestion as a primitive feature in this pathological state, and other symptoms and conditions as more secondary. The circulating medium certainly becomes greatly depreciated in normal elements, and to replace these constitutes a leading indication of treatment. How to accomplish this, or the principles upon which it is to be done, involves details and considerations not consistent with my present purpose to discuss. So far as concerns the lesion of the mucous lining of the mouth, I can regard this only or mainly as a local manifestation of a more general diseased disposition, and this consideration would lead us to attach but a secondary value to topical measures of treatment; this my experience fully verifies. I have derived manifest advantage from astringent washes, and even caustic solutions applied to the diseased membrane; but they are to be relied on as less important auxiliaries of a judiciously devised constitutional plan. One drachm of sulphite of soda to the ounce of water forms a valuable wash. The blood dyscrasia, which constitutes the peculiar diathesis of this affection, must be corrected by a set of measures addressed to the nutritive and assimilative functions,—a properly regulated but nutritious diet, exercise adapted to the strength of the patient, and attention to every means of promoting and maintaining the healthful functions of the skin. I have found the most satisfactory results to attend the persevering administration of quinine, chalybeates, the mineral acids, and cod-liver oil, with attention to the state of the secretions.

To speak with more especial reference as to the etiology of puerperal anæmia, I am inclined to discard the influence of climate and locality in the causation of the disease, further than the agency they may exercise in lowering the tone of nutritive life. Thus they may become predisponent agencies; but unless there be an inherent defect of constitution, I should be disinclined to attach much consideration to their influence alone. One of the strongest predisposing causes is, a naturally delicate and enfeebled constitution, and whatever depressing influences may operate to foster and still further deprave this natural disposition to the establishment of the anæmic diathesis; nothing further is wanting to give to the disease its distinctive and characteristic development, but the withdrawal, from the already scanty maternal supplies, of such nutritive elements as answer the demands of gestation and lactation. I will suggest a circumstance in this connection: I have observed in a majority of cases falling under my notice, that the child is very prone to muguet during the existence of the other disease in the mother. How far may the vitiated materials of nutrition derived from the mother contribute to the development of muguet in the child?

I will now bring to a close this communication, already extended greatly beyond the contemplated limits when I sat down to write. It will afford me decided satisfaction, at all times, to reciprocate favors of this character, and as a beginning I would gladly have pointed out to me a more successful plan of treating malignant epidemic scarlatina, than experience and reading have, as yet, enabled me to arrive at. I am, most respectfully, yours, etc., J. P. Hall.

Remarks.—The points of particular interest in Dr. Hall's paper are, the kind of constitution most liable to this affection, viz.: feeble, delicate, breeding, and suckling women—its constitutional rather than local seat—its pathology in his judgment being a lesion of nutrition—its sporadic appearance in Kentucky and Tennessee—its very marked, grave, and chronic character—its low grade of remittent febrile exacerbations—the ulcerated condition of the mouth and tongue, attended with profuse salivation not mercurial—the impoverished state of the blood the cause of the disease, and to supply the circulation with normal elements the chief indication in the treatment—and the observed fact that the infants at the breast, in the majority of cases, are also affected with sore mouth. In fine, this contribution comes to us with a freshness from the bed-side of observation in this disease that is exceedingly forcible and instructive, and much to our aid and assistance in these researches. When we come to sum up and offer our views of the nature of this affection, having first set forth all the testimony we can find on the subject, the attention of the careful reader will revert to these practical views of Dr. Hall.

Dr. Judkins' Reply.—Cincinnati, 4th Mo., 1854.—Dear Doctor: Thy circular of inquiry relative to "nursing sore mouth," which thou wert so kind as to send me some weeks ago, I have taken the first favorable opportunity to answer.

In the early part of my practice, I do not now remember to have met with this affection. I often met with diseases, over forty years ago, affecting the mucous tissue resembling stomatitis; also an apthous condition in children in the same membrane.

Within the last twenty years, but more especially within the last ten years, my attention has been more particularly drawn to notice this adult female disease, for I do not remember ever seeing the disease in any other persons than adult women, and in these only while in the state of lactation.

Females of a lax fiber, thin in flesh, rather of anæmic appearance, are those generally whom I have been called upon to treat for nursing sore mouth. I have known some ladies so predisposed to the affection as never to go through a lactation without it, and others, with slight hygienic directions, to escape during the second and third lactations, and perhaps to the end of child-bearing; showing that a strong tendency or predisposition exists in some females to morbid derangements and ulcerations of the mucous linings of the primæ viæ. I say hygienic directions, by which I wish to be understood well-aired rooms for lying-in women; pretty good diet after lactation is established; bathing the skin often over the region of the uterus, both anteriorly and posteriorly, with tepid water, and after which staying the muscles of the abdomen with a bandage; patients to be taken out after their infants are three weeks old, to ride in the fresh air when the weather is suitable; and to be allowed to receive the visits of affectionate friends at suitable times, etc.

In tracing the symptoms as they are developed in this disease, it has manifested itself as *sui generis*, and is confined in its locality, incipiently, to the mucous membrane of the primæ viæ. I am led to this conclusion from the symptoms only in the living subject, having never yet made a post-mortem examination to prove this position. There appear to be three stages in the regular phenomena of nursing sore mouth, viz.: irritation, inflammation, and ulceration. In addition to these there is (as in most idiopathic diseases) a forming or fixing condition in order to bring about the disease itself, and this is indicated by lassitude, debility, and coolness over the body. Shortly after the lady complains of heat and irritation in the mouth, with a preternatural secretion of saliva; then follow red spots on the sides of the tongue and mouth, which, in a few hours, sometimes terminate in ulcers; ragged ulcers of from half the size of a three-cent piece to that of a fifty-cent piece. Soon after things have developed themselves thus far, the lady complains of pain and tormina all through the bowels, indicating the same altered structure and ulceration in the primæ viæ throughout.

In the second stage fever is observable, and the irritation occasioned by the ulcerations through the track of the first passages keeps it up for some days, say two or three, unless mitigated by some remedy, yet in common incipient cases lactation is but little retarded; but if the disease is permitted to continue for a few weeks, general debility and loss of flesh follow, and the secretions become morbid and the milk fails. Generally speaking, from the time that the first irritation is observable below the pylorus, the bowels begin to act preternaturally, and the dejections are commonly of a thin, watery consistence, inclined to light color. I say generally, but there are some exceptions. I have seen cases where the bowels have been confined during the progress of treatment, except when moved by the administration of laxative medicines, but never without pain.

After the disease has been of two or three weeks' standing, by examining a recent alvine evacuation, we discover *floating floculi* in the chamber-vessel of a mucous appearance; this, taken in connection with some of the other symptoms, viz.: ulceration, heat, burning pain, etc., in such portions of the mucous tissue as can be seen, lead to the belief that there are ulcerations in the mucous linings of the bowels, nearly, if not entirely throughout the whole track, from which the mucous secretions became separated and found their way to sight.

If this state of morbid derangement continues for two or three months, the body becomes emaciated, hectic fever ensues, and, where there is a strumous diathesis existing, we will have tuberculosis developed, with cough, hemoptysis perhaps, and other fatal symptoms to close the scene.

I will now touch upon the important point in the treatment. Every intelligent physician, with whom I am acquainted, has his favorite prescriptions in this female affection; and as I have been called to prescribe for quite a number of patients, I will only notice what course I have adopted; hoping, that when my experience is added to that of others, something may be sifted out that will be of service. There are two prominent indications to be fulfilled in the treatment: in the first place, we must endeavor to correct the ulcerative process or heal the mucous tissues, and in the second, to restore the morbid secretions and disordered functions to a normal standard.

Unfortunately, the cases that have come under my care have mostly been chronic, and hectic symptoms more or less existed, with diarrhœa, tormina, general emaciation, restless nights, suppressed lactation, etc., etc. I begin the treatment by giving bicarbonate of soda, in fifteen-grain doses, dissolved in a tumbler of water, three times a day, which soon corrects the *acid* and *acrid* secretions in the first passages; and, in order to avert diarrhœa, I combine about five drops of the tincture of opium with each dose; order the patient to be well bathed in tepid water, once in the twenty-four hours, when the exacerbations of febrile action are at the highest point; regulate the diet, and avoid such articles of fruits and vegetables as have a tendency to irritate the tender granulations with which they may come in contact, or may exert an unhealthy influence over assimilation, but at the same time enjoin a generous, or *good rich diet.* After a few days thus treated, I give the patient one of the following pills three times a day.

℞

Nitrate of silver, . .	gr. x.
Denarcotized opium, . .	gr. iv.
Gum camphor, . . .	gr. v.
Disulphate of quinine, .	ʒj.

M. f. pil. No. xxv.

As the symptoms vary and improve, I suspend in part or altogether the medicinal treatment, as would occur to any physician, watching the effect of remedies, and the turn and change of symptoms of the patient. Under this plan of treatment I have, but in one case for several years, been under the necessity of taking the child from the breast of its mother, though I am aware of the great assistance afforded thereby in the cure. Very respectfully, thy friend,

WILLIAM JUDKINS.

Remarks.—Our circular was sent to Dr. Judkins, understanding through some of his patients, whom he had treated for this affection, that he possessed skill in its treatment, and enjoyed some reputation for its successful management, beyond that of the generality of physicians. His success, it now appears, depends on the liberal use of *a salt of soda, tonics and astringents, with good food, and tepid ablutions daily;*

a course well calculated to promote, coax, urge, even *force*, the nutritive process. This practice appears very rational, certainly, and in the absence of a true pathology, and the real cause of the affection not known, must be regarded as happy. When we shall have unfolded the *essential nature* of this anomalous affection, the why and wherefore of the success of Dr. Judkins' practice will be clear.

The points of particular interest, then, in Dr. Judkins' paper are, the apparent increase of this affection of late years—delicate ladies its subjects—its liability to recur—good, rich diet a preventive—pain and tormina of the bowels always present in marked cases, together with a watery diarrhœa, and *white floculi floating in the dejections, as in cholera.* No other contributor to the literature of this affection, we believe, has taken notice of this last circumstance—a very important fact. Doubtless these floating floculi are cast-off patches or sloughs of the epithilium, the same as in cholera, and not mucous secretions, as Dr. Judkins supposes. The tendency to grave local lesions, and the development of tuberculosis, hemoptysis, etc., is another point of importance to be borne in mind in this very practical contribution.

Let us now consider the literature of this disease.

LITERATURE OF NURSING SORE MOUTH.

The main contributions upon this supposed new form of disease, are from Drs. Hale, Backus, Channing, Bell, Wood, Shanks, Taylor, Holt, Ware, McGugin and King, in the United States, who have described it as it appeared in the extreme eastern, western, northern and southern States. These contributors have described the affection from personal observation, with the exception of Drs. Wood and Bell of Philadelphia, who have given it place in their standard systems of practice as a new form of disease on the testimony of others, and chiefly Drs. Hale and Backus, who were the first to call attention to this anomalous affection through the Medical Journals—Dr. Hale's article having appeared in 1830, and that of Dr. Backus in 1841.

Beside the above-named American contributors to the literature of this anomalous affection, we find that Dr. Marshall Hall, of London, wrote a treatise on a similar anomalous disease, in 1820, designated by the very indefinite appellation of "*a serious affection,*" which, appearing to us the same as the nursing sore mouth of this country, we shall begin our synopsis by analysing.

Dr. Marshall Hall's Treatise.—A review of this may be seen in the London Medical and Physical Journal for July, 1820, with copious extracts,—our source of information. Dr. Hall appears to have encountered an epidemic of this affection in the early period of his career, and, without venturing an opinion as to what it was, wrote a treatise of ninety-six pages on it, entitling it, "*Cases of a serious affection chiefly occurring after delivery, miscarriage, etc., and of a similar affection unconnected with the puerperal state.*" The general character of the serious affection of Dr. Hall appears to us to be the same as that of puerperal anæmia, or the nursing sore mouth, since described in the Journals of this country—its victims are the same, and there is a striking similarity in the history and progress of the cases—the whole phenomena in fact, even to the mode of death. Dr. Hall's cases do not, perhaps, appear to have been characterized by as marked a tendency to ulceration of the mouth as the general run of cases described in this country, though, from the fact that those persons were among its frequent victims, who suffered from "aphthæ with irritable stomach," it is evident that sore mouth was a symptom generally in Dr. Hall's cases.

The causes of the affection Dr. Hall supposes to be, irritability and exhaustion following the shock, drain or fatigue of the system incident to parturition, abortion, or lactation.

The subjects of the disease are those exhausted by diarrhœa or other sickness previous to delivery; those of pale, icterode complexion, who had been anasarcous, or who had suffered from aphthæ with irritable stomach and bowels; those exhausted by repeated and prolonged uterine or other hemorrhage, or depletion for subduing inflammatory diseases; and the naturally delicate and feeble. He has seen it suddenly developed after venesection, and also after full purgation. Anxiety, alarm, and disturbance of mind have seemed to cause it. The affection in some instances came on in the latter period of pregnancy. Sudden and unexpected death sometimes occurred after delivery, or even after blood-letting. By a removal of the exciting cause, as a prolonged menorrhagia or an exhausting lactation, the prominent or urgent symptoms frequently ceased. The affection sometimes proved fatal after a more or less urgent, protracted, and varied course; and in other cases there was long-continued indisposition. The doctor attempts to arrange his cases under six varieties, as follow: "1. The acute; 2. The more continued; 3. With general symptoms; 4. With some predominant local affection; 5. As the effect chiefly of intestinal irritation; or 6. Of hemorrhage. The greater number of cases, however, do not admit of being referred to any one of these divisions, distinctly or exclusively, but assume a mixed character." He arranges his account of the symptoms with reference to the regions of the body affected, as follows:

The head.—"Severe pain, beating and throbbing, rushing or cracking noises, vertigo on assuming the erect posture, intolerance of light and sound, wakefulness, starting during sleep, waking hurried and alarmed, faintness, feeling of sinking, of impending dissolution, overcome by noise, disturbance, and thinking even, and delirium.

"*The heart* is in different cases affected with palpitation, fluttering, irregular and feeble action; there are beating and throbbing of the carotids, and sometimes even of the abdominal aorta; great rapidity and sometimes irregularity of the pulse; faintness or fainting; urgent demand for the smelling-bottle, fresh air, fanning, bathing of the temples; feeling of impending dissolution; incapability of bearing the erect position; and sometimes early fainting from V. S.

"*The respiration* is affected in different cases with panting, sighing, heaving, gasping, moaning, blowing, catching, with urgent demand for fresh air. There is sometimes great and alarming oppression about the chest. There is in some cases an irritative cough.

"*The stomach* is liable to become affected with irritability, sickness, retching, vomiting, hiccough and eructation; the bowels with constipation or diarrhœa, pain, flatus, distension, etc.

Muscular system.—" There are very frequently urgent restlessness, tossing about and jactitation. In some cases various spasmodic affections have occurred.

"*The seats of pain* are usually the head, the side, the illiac region, the loins, the uterus, and the abdomen generally. The pain of the illiac region and of the abdomen are often attended with much tenderness."

Dr. Hall impresses the idea that this affection will never bear blood-letting, although the local affections often led the practitioner to believe inflammation present. He does not attempt to explain the nature and pathology of the affection. The broken down and debilitated are its victims, and the greater the weakness the greater the susceptibility. *Males are sometimes attacked with this complaint.* The indication in the treatment is to restore the vital energies.

Remarks.—It is very evident from Dr. Hall's account of this affection, its causes, its subjects, its very varied and grave constitutional symptoms, with complete prostration of the vital powers, while seeming grave local inflammations are apt to set in and mislead in the treatment, that the "serious affection" described by him in 1820, in the British Journals, is identical with the "nursing sore mouth" affection first described in the Journals of this country in 1830 by Dr. Hale; at least it appears so to us, and the anomalous character of the cases being such as to prevent Dr. Hall from naming the disease, is strong confirmation of this. The identity of the two affections being conceded, we here establish another point of great importance in our researches, viz., that *males are sometimes subjects of the complaint.* This accords with our experience, although the idea has never been hinted in the Journals of this country. We have repeatedly seen men and boys subjects of the complaint, and also girls, as well as suckling women. Hence we infer that pregnancy and lactation are causes of the affection only so far as they tend to impair the general health by confinement or want of proper exercise in the open air, improper restrictions in diet, a gloomy state of mind, exhausting drains by hemorrhage, etc.

The special attention of the reader is invited, in these cases of Dr. Hall, to the prominent symptoms, viz. lassitude, sinking, fainting, icteric pallor and anæmia, pain and tenderness of the abdomen, diarrhœa or constipation, aphthous ulcers and other local lesions, hemorrhagic associations, protracted course, getting well when the exciting cause was removed, as an exhausting menorrhagia or lactation, fatal tendency, sudden mode of death after some shock, as parturition, etc. We wish the reader also to notice the sudden development of the disease sometimes after a shock, as blood-letting, catharsis, or merely from the emotional shock of fear. All these are very instructive illustrations.

Contributions of American Physicians.—As before observed, Drs. Hale and Backus appear to have been the first to describe this affection in the United States, and an analysis of their contributions might, very properly, take the lead; but we prefer to place the most accurate account of the disease that has met our view first in order, and therefore give the substance of

Dr. McGugin's Article.—This valuable contribution appeared in the *Western Medico-Chirurgical Journal,* published at Keokuk, Iowa, October, 1851, and is styled "*Stomatitis in Pregnancy and during Lactation.*" In the outset, the affection is stated to be the ulcerative sore mouth consequent upon and occurring during pregnancy and nursing, particularly described by Drs. Hale and Backus. The idea is entertained that it is a disease peculiar to this country, rare on the seaboard, more common elsewhere. The doctor had met with several cases in two years' practice at Keokuk—says its pathology is not understood, and why it appears in certain localities, and whether or not caused by miasm, not known to the profession. Thinks local causes only act feebly in its production; that the real cause is in the system, for that the disease is relieved when the infant is removed from the breast—has found the scrofulous constitution most subject to it—thinks it arises from faulty nutrition, and that pregnancy, which favors excitement in the lymphatic system, somehow tends to develop it—that the glands of the mouth largely partake in the excitement, and in lax and strumous habits the feeble integrity of the tissues gives way to ulceration. Passing from the doctor's theories, we give his more valuable delineation of symptoms.

"The patient complains of burning heat, similar in sensation to that produced by hot fluids, when taken into the mouth. Food, when taken, even of the blandest kind, is swallowed with pain and difficulty, and that which is solid is masticated imperfectly and painfully. The lower lip is tumefied, and turns out and downward, and in the efforts to speak, the saliva, limpid and scalding, pours over it. There is pallor of the face, an anxious and painful expression of the countenance, and a crescentric dark circle below the eye. The pulse is small and frequent, the skin dry, and the mind irritable and despondent. The mucous lining of the mouth is highly vascular and livid in color, the tongue red and often swollen, and early in the attack small granular elevations may be seen along its edges and tip, and still more highly vascular than even the surrounding mucous membrane. These points are highly sensitive, and much suffering is produced when the tongue touches the teeth or jaw. Very soon these show yellow vesicles on their tops; and in a short time these burst, leaving an ulcerated tip or depression, and rapidly, under the ulcerative process, extend themselves over the surface. They now multiply in number, and may be found within the lip, under the tongue, within the cheeks, and in the fauces. Now the suffering is great, for the surfaces of these ulcers are most sensitively endowed. They may extend down the œsophagus into the stomach, throughout the intestinal tube, into the posterior nares, down the trachea, along the bronchiæ, and finally involve the lungs in an irreparably diseased condition."

Case.—"Mrs. W——, of scrofulous predisposition, and advanced to the seventh month of pregnancy, had been laboring under stomatitis for three weeks before advice was taken. The tongue, the lips, the cavity of the mouth and fauces, were thickly covered with ulcerated patches. From the difficulty of swallowing, it was also manifest that it had proceeded downward along the lining of the œsophagus, and it was just as evident that the mucous coat of the stomach was also seriously involved. There was much suffering on deep pressure in the epigastric region, and food was rejected immediately upon swallowing it. The symptoms pointed to a diseased condition of the cardiac orifice. There was at this time some constipation of the bowels. After a time, from a change in the voice, together with a sense of tightness of the part, and stiffness of the muscles of the neck, it was evident that the larynx and trachea were suffering also. There was slight cough, with a muco-sanguineous expectoration, and upon retiring to bed, the semi-recumbent posture was chosen to favor inspiration, in which position the head was thrown back. There was slight dullness upon percussion over the entire thoracic surface. There was feeble respiratory murmur, owing to the thickened walls of the larynx, aided, doubtless, by the preternatural smallness of the chest.

"She had now arrived at the eighth month of her pregnancy, the previous month having been spent in the foregoing developments. The symptoms now assumed a more grave character; the cough was constant and harassing; the sputa, thick, tenacious and slightly sanguineous; wandering pains through the chest; respiration difficult at intervals; dullness over the entire thoracic surface, particularly manifest in the superior sternal and the right clavicular regions. There was bronchial respiration, but no vesicular murmur; irritability of the stomach so great as to reject food, drink or medicine. The dejections showed a large admixture of thick tenacious mucus, similar to that expectorated.

"About the middle of the eighth month the following were the symptoms: There had been a large discharge of pus in coughing; pectoriloquy in right infra-clavicular region; the ulceration had extended to the posterior nares, followed by alarming epistaxis, doubtless from the destruction of a vessel in the progress of ulceration; the irritability of the stomach continues as before; colliquative diarrhœa and hectic fever; cough persistent; sputa purulent and muco-purulent.

"Her confinement, which was now close at hand, was looked forward to as an event which would close her sufferings. All the symptoms continued in an exalted form up to this period, when uterine contraction came on, and her labor was concluded in two hours from the first evidence of uterine effort; was easy, and followed by but little loss in discharges. She, however, began to sink rapidly, and in eight hours from the delivery of the child she died. The child was less than the average, but appeared healthy. In a few days, however, as I learned, it sank rapidly with similar symptoms to those of the mother.

"The treatment was such as would naturally suggest itself; but the irritability of the stomach opposed a serious difficulty to the prosecution of any treatment, or a fair trial of any remedial agents internally."

In commenting on this case, Dr. McGugin notes the rapid development and extent of the local lesions, particularly phthisis, which is ordinarily hushed in pregnancy, but here it was developed.

Where the disease comes on after delivery or during lactation, he says, "it is attended with prostration, and even before the attack there is a sense of sinking and depression." Thinks the drain upon the system in the secretion of milk favors the rapid development of the disease, and therefore the infant should be separated from the mother before she is permitted to sink into hopeless anæmia. Suggests that animal chemistry may, by analysis of the milk, yet throw light on the pathology of the disease. Illustrates the imminent hazard that sometimes presents—the mother laboring under this affection, and the infant in the critical period of dentition—to wean may be death to the child, and not to wean death to the mother. Such a case came under the doctor's care the summer previous, and caused him much anxiety, but he saved both mother and child. The cure of the mother was ascribed to hydriodate of potash, a nutritious diet of broths, and porter as a drink. Several subsequent cases, he says, yielded to the same course of treatment; one especially, where, in a prior attack, weaning the child had to be resorted to in order to save the mother. Dr. McGugin says he has no confidence in any other remedy. The hydriodate of potash in solution also recommended as a gargle, and iodine to be added where the ulcers are "dark and ill-conditioned." Cinchona, porter, nourishing jellies and soups, and warm saline baths. If these means fail, wean the child.

Remarks.—Dr. McGugin's description of the disease and case reported illustrate the symptoms, progress, fatal tendency and sudden mode of death after a shock to the system, so accurately, that nothing is wanting but the anatomical characters to render his contribution complete. To be sure he infers what, no doubt, an autopsy in the case would have revealed, viz.: ulcerations or lesions of the epithilium throughout the gastro-pulmonary branches of the mucous membrane—that is, in spots and patches. The sero-sanguineous salivation, alarming epistaxis, and development of tuberculosis, justify this conclusion.

We have witnessed several instances of *sudden and unexpected death* after delivery in this affection, as noticed by Dr. McGugin and Dr. Marshall Hall, and shall speak more at length of this feature of the disease in our analysis of cases. Suffice it that we invite especial attention to it in this connection, as also to the *hemorrhagic tendency* spoken of by Drs. McGugin and Hall. The reader should also bear in mind the *prostration and sinking*, spoken of by Dr. McGugin before the disease comes on—that is, before the mouth becomes sore. This is doubtless the "forming or fixing stage" of the affection spoken of by Dr. Judkins. The local lesions, then, are secondary, according to these contributors, which accords with our experience. Here then we establish another important point in our researches, viz.: that the local lesions of the mouth, fauces, stomach and bowels, posterior nares, and bronchial membranes, are consequent upon the general or constitutional affection. One other symptom, or rather objective sign, noticed by Dr. McGugin, is worthy of special attention; it is the highly vascular and *livid color* of the mucous lining of the mouth, spoken of. The papillary blisters or yellow vesicles that form on the sides of the tongue, and spread to all parts of the mouth and fauces, stomach and bowels, etc., are spoken of by others, as are constipation and diarrhœa. We wish the reader also to take note that a *salt of potash* is Dr. McGugin's main remedy; not that he was the first to call attention to the efficacy of a salt of potash or soda in this disease, but because he bears testimony to this fact. In the dietary he prescribes, viz.: *nourishing jellies and soups,* aided by porter, cinchona and warm saline baths, he agrees well with other contributors. Calling attention to one other circumstance, viz.: the sinking and death of the infant "with similar symptoms to those of the mother," we will close our comments on this very instructive contribution.

The Contributions of Drs. Hale and Backus are made the basis of the descriptions of this affection to be found in *Stokes and Bell's Practice,* second edition, page 54; and also in *Wood's Practice,* third edition, vol. 1, page 500. Both of these standard authors, Bell and Wood, have taken it for granted that this is a new form of disease, without ever having seen it, or had an opportunity of investigating its character! Both reflect the opinions of Drs. Hale and Backus, that the disease is at first a local affection or ulceration of the mouth, extending by degrees to the fauces, stomach and bowels, and thus secondarily involving the constitution, and breaking down the general health; and both follow the dogma inculcated by these and most other contributors, that the disease is peculiar to suckling women, though it may possibly occur in the latter months of pregnancy. According to these authors, Dr. Hale's first communication on the subject is to be found in the *Medical Communications of the Massachusetts Medical Society*, vol. v., 1830; and his second, in the *American Journal of the Medical Sciences*, April, 1842. Dr. Backus' article in the latter, January No., 1841. We have not seen the original contributions, but the substance of them, as set forth in the articles styled "*Stomatitis Nutricum*," by Dr. Bell; and "*Sore Mouth of Nursing Women*," by Dr. Wood, which are the sources of this analysis of Drs. Hale and Backus' views, and which for reasons that will be obvious shortly, we feel it to be particularly incumbent on us to carefully reflect.

According to Bell and Wood's works on Practice, then, the incursion of the disease is sometimes sudden, and the local affection of the mouth is characterized by loss of taste, scalding sensations, patches of painful pimples on the sides of the tongue and mouth, which after a time ulcerate, and produce very painful sores, with hard elevated edges, and an inflamed circle around them. The inflammation, as the disease progresses, extends over the mouth by means of successive crops or patches of these papillæ; the surfaces of the mouth become exquisitely tender; the taking of food and drinks causes much pain; and a copious salivation sets in. This *local* disease, as it is considered, is not at first attended by febrile symptoms, loss of appetite, or furred tongue, but on the contrary the appetite is good throughout the course of the disease, and the tongue is red and smooth; but if the disease be not arrested, ulceration extends to the fauces, œsophagus, stomach and bowels, and then great intestinal irritation and severe constitutional symptoms supervene, with diarrhœa, debility, emaciation, etc., which overwhelm the patient and often end in death. This gives a condensed outline of the symptoms as recorded in the standard works of Drs. Bell and Wood, professedly drawn from the contributions of Drs. Hale and Backus. Dr. Hale, it is stated, has seen considerable loss of the substance of the tongue by sloughs; and Dr. Backus has noticed so sudden an attack that, "in three hours' time after seeing your patient in health, you may find her with a scalded tongue and fauces, and unable to converse or take food." [!]

The cause of the disease is ascribed to some unknown baneful influence, exerted on the system by nursing. [!]

The subjects are wholly women in the suckling condition; or if pregnant women are attacked, they are those who had had the disease previously while suckling, and had established a predisposition to it. It is very apt to recur in subsequent nursings if a woman has once had it.

The constitutions most liable to it are the leuco-phlegmatic and dyspeptic, which are habitually costive; but others, even the most robust, are sometimes its victims. It appears to be much more prevalent in some localities than others.

The prognosis is generally favorable, if the constitutional symptoms of exhaustion have not run too long; and it is chiefly where there is a predisposition to phthisis that alarm need be felt, and the child weaned. Notwithstanding the wasting and weakness of the mother, the secretion of milk holds out, and the child continues vigorous and healthy.

The treatment is rested mainly on tonics, laxatives, *lemon-juice and bicarbonate of potash* in effervescing draughts, *tartaric acid* in small beer, and porter, with nourishing diet; at least this is Dr. Hale's treatment, and very little value is attached by him to local treatment, Dr. Backus recommends chalybeates combined with laxatives. The nitrate of silver is recommended as a local application. Weaning the child is thought to be an effectual measure.

Remarks.—The above is a faithful abstract of the accounts given of this affection, by Drs. Bell and Wood, drawn from the contributions of Drs. Hale and Backus; and no one, we presume, will question the identity of the disease with that described by Drs. McGugin, J. P. Hall, Marshall Hall, Ellsworth, and Judkins. The several descriptions all comport in the main. There is nothing particularly important in the descriptions of the affection as drawn from Bell and Wood, over and above that of others, on which we can rest a point, save in the treatment, viz.: that *lemon-juice*, *tartaric acid* and *a salt of potash* are effectual remedies.

To post up the several points made in our researches, by way of keeping the mind refreshed, we find we have made the following, viz.: 1. The nursing sore mouth is not an affection peculiar to nursing women. 2. It manifests itself epidemically after cold protracted winters. 3. Males are sometimes its subjects. 4. The local lesions are secondary. 5. The vegetable acids and salts of potash are effectual remedies. These points we think are clearly established, to say nothing of the balance of the testimony, all tending in the same direction, and, as we think, conclusively proving that this anomalous affection, which has been stumbled over by the profession in Europe and America for the last thirty years, is nothing more nor less than LAND SCURVY. This has been our conviction for many years, since 1835, when we first encountered it, and met it successfully with antiscorbutics. In 1851 we reported sundry cases of it successfully treated on this plan, in the *New York Journal of Medicine*, and presumed it was only necessary to call attention to its *real and true nature* to have the matter fully appreciated. We there remarked as follows: "These cases are reported because of their practical bearing. Marvellous accounts of this nondescript disease, called 'nursing sore mouth,' appear from time to time in the journals; and why some one has not set its nature and pathology to rights, who is in the habit of contributing to, and fond of appearing in the journals, I am at a loss to understand." But it seems "we reckoned without our host," for Dr. Wood still adheres to opposite conclusions, which are being widely disseminated. He closes his article on "*Sore Mouth of Nursing Women*," with an allusion to our views as follows: "Dr. M. L. Knapp, formerly Professor of Materia Medica in the University of Iowa, considers this disease as essentially scorbutic; and has treated cases on this principle successfully, which have come under his notice; but the affection, as described by Drs. Hale and Backus, has *not* the peculiar features of scurvy, and differs probably from that noticed by Dr. Knapp."

Now our object in elaborating this subject is to arrive at the truth. Dr. Wood is a prominent author, his opinions have deservedly much weight, and, as we are at issue on a question of fact, as to whether or not the affection described by Drs. Hale and Backus presents the peculiar features of scurvy, we invite a careful attention to the subject. If a scalded, drivelling sore mouth in female subjects, exhausted and prostrated by breeding and nursing, displaying increasing patches of ulceration of the mouth, tongue, fauces, and extending to the bowels and bringing on diarrhœa, profuse salivation and complete prostration of the system, development of grave and complex constitutional symptoms and local lesions—if these phenomena do not present the leading "peculiar features" of land scurvy, we ask what symptoms do? and if lemon-juice, tartaric acid, and a salt of potash prove effectual remedies, what then? We are not ambitious to "shiver a lance" with Dr. Wood; but nevertheless, as our views are crowded to the side of error by him, in the diagnosis of a disease in which we have had much experience at the bed-side and he none, we owe it to medical science and humanity, to endeavor to right ourself, and stay the promulgation from so high authority of so absurd a medical philosophy as teaches that this is a *new disease;* that it is *peculiar to nursing women;* that it is caused by some *unknown baneful influence exerted on the system by nursing, etc., etc.;* and that denies that *soreness of the mouth in a suckling woman, anæmia, prostration, salivation and diarrhœa,* present the "peculiar features" of scurvy; and where, in the same breath, it discloses unwittingly the reason why *lemon-juice, tartaric acid and a salt of potash* are reliable remedies!

Dr. Channing's Article.—In the *New England Quarterly Journal of Medicine and Surgery,* for October, 1842, is an article on this affection, with cases, which is epitomized in the *Maryland Medical and Surgical Journal* for December of the same year, as follows:—*Notes on Anhæmia, principally in its Con-*

nections with the Puerperal State, by W. Channing, M. D. The cases detailed in this article are quite interesting, and seem to demonstrate the existence of some pathological condition other than the loss of blood, producing the condition which Dr. C. thinks is improperly called *anhæmia*. He ventures to suggest, and sustains his suggestions with great plausibility, that this pathological condition consists, if not entirely, at least in great part, in the subversion of the functions of the capillary system, by which the blood passes from the arteries to the veins, without undergoing its usual changes. The symptoms of this condition are a brilliant whiteness, smoothness, roundness, dryness and warmth of the surface every where; the blanched lips, mouth, tongue; the scarcity of external or subcutaneous veins, and the bright pink color of their contents, with the want of the roundness in these vessels, which results from fullness, various noises in the head, the mind in various states, but generally having a serene anticipation of death. There is tumultuous action of the heart. Dr. Channing, sustained by his cases, infers a close connection between the puerperal state and this morbid condition, and in such a connection the disease is most fatal. The cause of the disease being so obscure as it is, the treatment is necessarily undefined, and can only answer obvious indications. Dr. C. suggests as an inquiry, what might be the effect of transfusion?

Remarks.—The 'puerperal anæmia' of Dr. Channing is evidently the 'serious affection' of Dr. Hall, and the 'nursing sore mouth' of other contributors. Doubtless also it is the 'hydræmia gravidarum' and 'endangium out of order' of Dr. Meigs, and the 'leucocythemia' of Dr. Bennett. There is something behind the scene in the pathology of all these watery blooded cases, with a powerless fiber, palpitating heart, panting respiration, and a brain looking with serene anticipations on death, that stamp them as more than simply *anæmia*, or loss of blood, as Dr. Channing says, and we fully agree with him that the affection is improperly called anæmia: it is the scorbutic diathesis developed in various degrees and in various ways, and sometimes in delicate females by improper restrictions in diet under medical direction. The materials for healthy blood have been withheld from the dietary, or the organs of digestion so deranged that nutrition and assimilation have become starved of their rights. It appears idle to us to look for the cause of the difficulty in some unknown, mysterious disturbance of the functions of the capillaries, as Dr. Channing suggests, or in the endangium as Dr. Meigs conceives, or in the spleen as Dr. Bennett argues. No doubt the capillaries, the blood membrane, and the spleen are all at fault, and suffer from impoverished blood. All the solids are equally as hydræmic, or leucocythemic, as the blood itself; hence the softening of glandular structures, and local lesions of the tissues. Where the causes and the coöperating causes are acting powerfully, as in a delicate breeding woman who has suffered in the earlier months of her pregnancy from morning sickness, and in the latter months from heart-burn, and who has been dieted on tea and toast, ulcers of the mouth should break out before delivery; but under more favorable circumstances there may be no local lesions, and yet very marked constitutional derangement. We have met with cases of years' standing where there were no ulcers of the mouth, only a lividity of its tissues, without salivation, even; and we have known cases of the affection to terminate fatally where soreness of the mouth was not complained of at all.

This leucocythemial, or white cell blood diathesis, is particularly prevalent in malarious districts. We have seen much of it under such circumstances in both sexes. It is much more frequently met with, however, in females, from the chlorotic girl to the suckling mother, than in males, as the victims of land scurvy are "principally women." (*Good.*) Iron alone is not a sufficient remedy, though we agree with Dr. Meigs (Letters to his Class *On Woman and her Diseases*,) that it is a good one; but all the elements of a healthy nutrition, as furnished in the "good rich diet" advised by Dr. Judkins, and the "nourishing jellies and soups" recommended by Dr. McGugin, together with the acidulated drinks of Dr. Hale, must be judiciously brought to bear upon these cases, aided by tonics, and a correct hygiene; which being found effectual, proves our views of the nature of the malady correct.

Dr. Channing infers a connection between the puerperal state and this morbid condition, in which connection the disease is most fatal. Others have inferred its connection only with the later period of lactation; but we have seen that it is also associated with gestation, and furthermore, that it is often the inheritance of infancy. The majority of infants at the breasts of mothers laboring under it, imbibe it. This we have verified over and over again, during the last twenty years, by the success of the lemon-juice treatment. We have rescued hundreds of puny, suckling infants, covered with indolent boles, or wasting under diarrhœa, simply by the administration of lemon-juice to the mothers, and throwing away the blue pill mass, etc., with which they were being drugged. Now the records of scorbutus show that infants imbibe the diathesis from the impoverished materials afforded by the milk of mothers laboring under it. And who so blind as not to see the identity? But let us briefly trace this infantile inheritance from nursing sore mouth or scorbutic mothers. If the infants live to be weaned, thousands upon thousands of them perish of cholera infantum during their second year. If some of them reach puberty, the vis vitæ is too feeble, and green-sickness sets in, and ends in the local lesion of tuberculosis If chlorosis be averted by chalybeates and a proper hygiene, still the leuco-phlegmatic constitution is formed in the girl, as her lax solids and palid countenance, lucorrhœa, falling of the womb, and tendency to local lesions of the os, import; and when this victim becomes a mother, nursing sore mouth sets in as a matter of course. Our philosophy, then, goes further back than simply to note that the leuco-phlegmatic constitution is the one for ever liable to nursing sore mouth; it explains the *cause* of this constitution, lifts the curtain and gives us a peep behind the scene.

Dr. Shanks' Article.—This article, *On Endemic Sore Mouth and Diarrhœa peculiar to Nursing Women*, by Lewis Shanks, M. D., of Memphis, Tennessee, we find epitomized in the December number of the *Maryland Medical and Surgical Journal*, December, 1842, drawn from the *American Journal of the Medical Sciences*, October, 1842, as follows: "In the treatment of this malady, when it occurs in the last months of gestation, as it sometimes does, Dr. S. relieves the excitement in the robust and plethoric by bleeding, followed by alteratives and laxatives, such as blue mass, calcined magnesia, and rhubarb in small doses; in those of feebler health, in whom there is little or no feverish excitement, he prescribes, as a tonic and alterative laxative, a combination of blue mass, ipecac, carb. of iron, rhubarb and aloes in proportions to suit each case. Ipecac alone, in doses of from one half to two grains, is a good remedy.

During nursing, when the disease becomes chronic and is attended with diarrhœa and emaciation, a course of alteratives and a rigid attention to diet are indispensable. In some bad cases a solution of arsenic and corrosive sublimate, containing of each a sixteenth of a grain for a dose, given two or three times a day, with a diet and drink of soda with barley water, or of wine and water and milk, has succeeded better with Dr. S. than any other course he has tried. As a wash for the mouth, the infusion of sanguinaria is recommended by him. Weaning the child is indispensable in grave cases attended with much emaciation and nervous irritation. In a description of this disease as it occurred at Rochester, N. Y., Dr. Backus says, the onset is often sudden and the bowels always constipated; and the most successful treatment is with alteratives and laxatives combined; but at Memphis, Tennessee, it comes on gradually and in its well-marked chronic form, which never occurs except during lactation; the constant diarrhœa excludes the use of purgatives or laxatives. In the same city, and in the level alluvial country near it, constipation is rare either in health or disease.

Dr. Taylor's Article.—We find an epitome of this also in the *Maryland Medical and Surgical Journal*, March, 1843, drawn from the January number, same year, of the *American Journal of Medical Sciences.* It is entitled *Remarks on a Species of Sore Mouth peculiar to Nursing Women;* by B. W. TAYLOR, of Monticello, Fa. "After having tried various tonics, vegetable and mineral, and laxatives, with only partial success, Dr. T. has found that equal parts of sulphur and cream of tartar in broken doses, to keep the bowels open, constitute the best treatment as regards internal remedies. It appears to have almost a specific influence over this disease. The best external application he thinks is borax. He has also derived great benefit from a weak solution of nitrate of silver. In cases attended with considerable exhaustion, the sulphur and cream of tartar should only be used to the extent of obviating costiveness, if it exist; and tonics, such as iron, cinchona, and elixir vitriol should be given. Porter is also advised. Should the case be complicated with diarrhœa, opiates should be given, with mucilaginous drinks and farinaceous diet. In cases that prove refractory, wean the child, when a speedy cure will take place."

Remarks.—This article furnishes further proofs of the efficacy of the salts of potash and soda in this disease.

Dr. Ware's Article.—In the *American Jour. Med. Sciences,* 1849, is a brief article on "*Nursing Sore Mouth,* by J. YALE WARE, M. D., of Massachusetts," stating that the affection is rapidly on the increase in that locality. No symptoms or cases are given, but Griffith's myrr. mixture is recommended as an infallible remedy. Nitrate of silver as a gargle is also advised, of the strength of two grains to an ounce of water, and a teaspoonful to be swallowed three times a day if soreness extends to the stomach. It is believed if this course is pursued weaning need not be resorted to.

Dr. Holt's Article.—A brief article appeared in the *New*

York Jour. Med., in May, 1848, from the pen of HENRY D. HOLT, M. D., of New York, recommending the hydriodate of potash in five-grain doses three times a day, given in the compound decoction of sarsaparilla. This had proved effectual in sundry obstinate cases. The doctor says, "without propounding any theory of the pathology of the disease, or modus operandi of the medicine, I feel persuaded that the one is as near being a specific for the other as can well be conceived."

Dr. King's Article.—This article of Prof. JOHN KING, M. D., of Cincinnati, appeared in the *Eclec. Med. Jour.*, April, 1852, and although it gives a similar account of the disease to that which may be found in Bell or Wood, presents nothing particularly new in the history or treatment, except that it is stated there *is always a dry, inactive state of the skin,* for which alkaline washes and the spirit vapor bath are recommended. And we take leave to add, that the skin is always *scurfy*, oftentimes sprinkled with *petechiæ*, and in some instances of extreme prostration we have seen *vibices.*

Thus much for the history and literature of the affection, embodying the present state of medical knowledge on the subject. Some few other papers giving an account of the affection have appeared, we believe; but, so far as we have been able to learn, the disease has never been suspected of being of scorbutic character by any contributor save ourself. We are not able to say what the impressions may now be on the mind of the profession, after an examination of the literature of the affection with the key of explanation offered by us, nor are we anxious at all about the matter further than the interests of science and humanity are concerned. Indeed we would rather regret to have proselyted many to our views in this early stage of our inquiry, lest interest in the subject flag, and would rather invite a supension of opinion until we shall have pushed our inquiry through its several chapters. A question in practical medicine as important as this, deserves to be well and carefully considered, and all opinions sifted before final conclusions be drawn. This chapter is but preparatory—the collated views of others. If after our researches shall have been completed, it turns out to be the general sense of the profession that the nursing sore mouth affection is a *new disease*, then let it be retained in Wood, and in Stokes and Bell, and inserted in other standard authors; but if it be proved to be *scurvy*, let us study that disease instead, which, we think, has been culpably overlooked of late years.

Doubtless the same liability exists in the human constitution, to take on the scorbutic diathesis, that has existed since the days of Hippocrates, by whom it was first described, and that existed in all time before, and that will always exist to the end of time, under a faulty alimentation or a meager supply of proper materials for forming healthy blood, perverted digestion, and obstructed aeration.

This faulty condition, no doubt, obtains to a very considerable extent in the present state of society and modes of life, even under our improved notions of the etiology of scurvy and the more general attention paid now-a-days to gardening and fruit culture. The poor inhabitants of cities, who are compelled by necessity to the daily infraction of the laws of a healthy dietary, are thereby rendered more or less scorbutic unquestionably, a standing cause of the aggravation of all their diseases, and of the vast amount of infantile mortality in our large cities; and we shall show conclusively, before we finish these researches, that the rich and high-born are frequently rendered the victims of scorbutus by mistaken notions as to what constitutes a proper and wholesome dietary; in other words, that restrictions in diet together with sedentary habits lay the scorbutic diathesis in the symptoms of many a breeding woman in high life.

ART. IV. *Luxation of the Head of the Radius backward, with Fracture of the Inner Condyle of the Humerus.* By THOMAS M. MARKOE, M. D., Surgeon of the New York Hospital.

To an anatomist studying the construction of the elbow-joint and the attachments of the two bones of the fore-arm to one another, it would appear evident, I think, that luxation of the head of the radius alone must be an exceedingly rare occurrence. Not only is the upper end of this bone protected from direct external injury by being deeply imbedded in muscles, but the whole length of the bone is so firmly bound to the ulna, that an immense amount of force transmitted through the hand would seem to be necessary to separate all these interosseal attachments. Observation proves the correctness of this conclusion, and shows that luxation of the head of the radius alone is one of the rarest of all the injuries which occur at the elbow-joint. The luxation forward, in which the capsular and annular ligaments are ruptured, and the head thrown forward, so as to lie upon the anterior aspect of the external condyle, would appear, anatomically speaking, to be the most possible, because there is here only a separation of the upper portion of the bone from its ulnar attachments, the lower end of the two bones not being separated from one another. With regard to the luxation backward, where the head of the radius passes behind, and to the outside of the external condyle, I am myself disposed to say, after a good deal of experiment and reflection, that it is physically impossible without the concurrence of one of three conditions; either, first, such a projection of the ulna at the wrist as we must suppose would be produced by the ulna remaining sound, and the radius slipping up from it one inch, a projection which must necessarily produce a great deformity in the position of the hand and in the appearance of the wrist-joint; or, secondly, a bending outward of the fore-arm at the elbow to such a degree as to make a lateral angle of nearly 45°; or, lastly, a fracture either of the ulna itself, or of its trochlear base of support on the humerus, which, by displacement, would permit the radius to be thrown from its articulation backward. In the absence of all of these effects and evidences of the luxation of the head of the radius backward, I cannot myself conceive the possibility of its occurrence, any more than I can conceive of a luxation of the hip on the dorsum of the ilium, without some shortening and deformity of the corresponding limb. In order to test the accuracy of my *a priori* reasoning, I have searched the records somewhat extensively for such cases as might have been reported, and I have not yet succeeded in finding one single unequivocal and undoubted case. Sir Astley Cooper had never seen this accident in the living subject, though he gives an account of a dissection of an old case of this luxation without saying any thing about the deformity produced, or of the possibility of the injury having been complicated originally with fracture of the ulna or humerus. Indeed, of the few cases which are reported, a large proportion have been seen by the reporters only after years have elapsed from the occurrence of the injury, and when the presence or absence of fracture could not be ascertained, and when any original deformity produced by the accident must be much modified by use and time. Sir A. Cooper alludes to another case, in the practice of one of his friends, but no account of the symptoms is given. He also, in his work on "Fractures and Dislocations," quotes two cases published by Langenbeck of Gottingen, which were considered as cases of simple luxation of the head of the radius backward. The first case, that of an adult, was not seen for six weeks after the accident, in which time a fracture would have firmly united; and in the child's case not a word is said of the signs or appearances presented. Langenbeck makes the remark, that with the exception of these two cases "I never met, during the whole course of my professional career, with a dislocation of the radius in any direction." In the *Dictionnaire de Medècine*, article "Coude," by Cloquet and Berard, the backward luxation is spoken of as occurring, though no case is given but the one of A. Cooper already alluded to. In a clinical lecture by

Gerdy, in the *Archives*, on Luxations of the Radius, a case is mentioned of lateral displacement of the head of the bone, which had occurred in infancy, but of which at the time of the accident nothing was known, and no other case is quoted, though the opinion of Boyer and others is alluded to, that the luxation backward is more common than the luxation forward. Vidal de Cassis goes extensively into the consideration of the subject of fractures and luxations, and says, that luxation backward is the more common form, but gives no case. Baron Boyer, who also treats the general subject very fully, merely asserts, that the luxation backward is the only possible form, and of it he gives a description *in extenso*, without however alluding to either of the three conditions, which seem to me to be so essential as physical results of the accident.

If we turn now our attention to the second feature of the accident under consideration, we shall be surprised at the discrepancy of opinions with regard to the frequency of its occurrence. Most of the principal authors, who treat largely of fractures, speak of fracture through the internal condyle as occurring not unfrequently, while Malgaigne, a prime authority, says, after alluding to the above opinion as held by Desault, Charles Bell, and Astley Cooper, "In spite of this triple authority, I regard this lesion as excessively rare. I have never seen it for my part. Neither Desault nor Charles Bell gives any examples of it, and in the single case cited by Astley Cooper there was, at the same time, fracture of the condyle and fracture of the olecranon." Malgaigne, however, alludes to a case which was presented to the Academy in 1828, by M. Caffort, in which "a woman aged forty-five years fell upon her elbow. M. Caffort recognized immediately a luxation, of which he obtained the reduction with a facility which surprised him. Examining afterward the joint, he perceived that the internal condyle of the humerus was very movable, and a manifest crepitus, joined to this sign, left no doubt as to the existence of the fracture." This is a case precisely in point in reference to our present inquiry, and it is only to be regretted that some details of the appearances of the injured joint are not given. In Cooper's work on *Fractures and Dislocations*, the editor has introduced a full account of a case, which he calls "dislocation with fracture of the internal condyle," which was sent to Sir Astley for his opinion, which opinion, however, is not recorded, except so far as the above title would indicate his views as to the nature of the injury. The case is one of a young lad aged fifteen, who was thrown from his pony, and dislocated in the fall his left elbow. "Both bones of the fore-arm were dislocated. The ulna was thrown backward, and the radius also lying toward the outer condyle completely separated from the ulna. The ulna was easily reduced by extension over a bed-post; the radius, however, did not return to its place. I then accomplished its reduction by an extension of the hand, pressing the head of the radius forcibly downward with my thumbs at the same time." The cure was tedious, and, ten weeks after the accident, the bones appeared to be in their proper relations, excepting a slight increase of the space between the olecranon and the prominence of the internal condyle, and a bony projection between these two points. The writer of the case concludes: "It appears to me probable, either that the swelling, which seems to be partly of a bony nature, may have been produced by inflammatory action, consequent on the injury, or from that portion of the trochlea of the humerus which forms the inner ridge supporting the ulna having been broken off at the time." With the exception of these two cases I have not found, in any of the principal systematic treatises on fractures and dislocations, any allusion to the possibility of the occurrence of the accident under consideration.

The three following cases having come under my immediate observation, have brought the consideration of this peculiar accident very strongly before me. I have thought them worthy of being placed on record, because, having encountered three examples in about six years, I could not but suspect that the injury described might be more frequent than was commonly supposed, and had escaped notice by being confounded with simple luxation of the fore-arm, or with some of the many other complicated and obscure injuries which so often occur about the elbow-joint.

Case 1.—During the fall of 1849 I was sent for to see J. H., who had a day or two before fallen from a hay-loft, striking upon his left elbow. Great pain and inability to move the limb followed the accident, and soon after very great swelling round the injured joint, so that at the time of my seeing him it was impossible to trace the bony prominences of the articulation, and therefore an accurate diagnosis was out of the question. I was forced, therefore, to content myself with supporting the arm in a sling, with the elbow in a semi-flexed position, which was a comfortable one, and applying a cooling spirit-lotion to the inflamed joint with a view of reducing the swelling. This was sufficiently accomplished, at the end of a week's time, to enable me to ascertain that the head of the radius was dislocated backward, and projected behind the external condyle in such a manner that the finger could very plainly recognize the cup-like depression on its superior surface. At the same time, though there was some deformity about the internal portion of the joint, yet there was not sufficient projection backward of the olecranon for luxation of both bones, and the exact relation of the internal condyle and the olecranon could not be fully made out on account of the swelling, which seemed to be greater on this side than on the other. There was a slight feeling of crepitus somewhere about this internal portion of the joint. There was no considerable deformity in respect to the position of the fore-arm and the arm, and no deformity at the wrist. In thinking over the symptoms of this case I could not satisfy myself that it was possible for the head of the radius to be so completely displaced, without either a corresponding projection of the ulna at the wrist, or else a fracture of either the ulna or its trochlear support, which might permit the radius to slip up, or finally so great a degree of bending laterally outward of the fore-arm on the arm, as would amount to an angle of more than 45°. In deciding upon these physical possibilities, the symptoms so evidently pointed to fracture of the internal condyle through the trochlea that I could scarcely avoid making that my diagnosis. It seemed to me clear that the fracture had involved the inner condyle in such a manner as to pass obliquely across the bone, and to include in the broken fragment the larger part of the trochlear articular surface, which being displaced backward would allow the ulna to fall sufficiently back to give the radius a chance to be entirely luxated. This view was confirmed by a very thorough examination of the part, made while the patient was under the influence of chloroform, to which we subjected him to facilitate our attempts at reduction. The displacement was easily reduced by extending the fore-arm on the arm steadily for a few minutes, and making firm traction in the length of the limb, and then bending the elbow to a right angle over the knee. All deformity ceased, and all the motions seemed to be restored. My impression is, that after the reduction, the crepitus became more distinct, and more clearly referable to the internal condyle; but, as I took no notes of the case at the time, and am now giving it from memory, I cannot insist upon that point. The limb was kept in a curved tin splint at about a right angle for three weeks, to give the fracture time to unite. Passive motion was then begun with great care. The arm was gradually restored to its functions, and by the end of a year was as strong and as useful as the other. Two or three years after the accident I examined the elbow, and the only trace which it presents of the injury is a slight thickening and irregularity about the internal condyle.

CASE 2.—Patrick Riley, æt. 16, an Irish sailor boy, was brought to the New York Hospital, June 5, 1854, with an injury of the right elbow-joint, received a short time before in a fall from a load of wood. At first sight, the appearance of the joint was that of a luxation backward of the fore-arm, but upon a more careful examination, it was perceived that the olecranon did not project backward nearly as much as is usual in the complete luxation. The head of the radius was manifestly dislocated backward, and the cup-shaped extremity of it could be felt and even seen projecting behind and below the external condyle of the humerus. On the inner aspect of the joint the olecranon could be felt about half an inch further back than it should be, and, in connection with it and displaced backward with it, could be felt the internal condyle of the humerus, while a little above the point usually occupied by the prominence of the condyle, was a sharp, bony projection, which was evidently the extremity of the inner condyloid ridge from which the condyle had been fractured off. The movements of the joint were very much limited in every direction, and in particular, rotation of the radius was much restrained. The case was regarded as one of fracture through the internal condyle, as it forms the base of support for the trochlear articulation, with such a displacement backward of the fractured portion as would allow of complete luxation of the head of the radius. The accident being recent, and examined under ether before any swelling had commenced, the points on which the diagnosis was founded were very clear and easily recognizable, and the conclusion arrived at was confirmed by two of my colleagues who saw the case. By drawing down firmly, and flexing the fore-arm on the arm, the reduction of both displacements was easily effected, but slipped out again with equal facility if not carefully handled. After the reduction crepitus became more manifest, and could be referred with precision to the moving of the fractured condyle. The arm was kept in the semi-flexed position, and supported in a grooved tin splint for the usual time, when passive motion was carefully commenced. The recovery was accomplished without accident, leaving him a limb perfect in all its movements, but showing some little deformity, perhaps from slight displacement backward of the broken fragment of the condyle. None but a very curious eye, however, would observe any difference between the two limbs.

Case 3.—B. P., æt. about 14 years, was brought to me by a gentleman of this city, under whose care the case had been for about a month, for my opinion on an injury of the left elbow, which he had sustained four weeks previously by a fall in which the inner part of the joint struck with force against a projecting corner of a trunk. Great swelling had taken place before Dr. —— saw the arm. He could detect obscure crepitus, but the great swelling prevented a satisfactory examination from being made. He, however, considered the case as one of luxation backward of the fore-arm, with fracture through the epiphysis of the humerus, and fracture of the coronoid process. He reduced the luxation and bent the arm at a right angle, and placed upon its anterior surface an angular elbow splint, with two corresponding ones on the arm and fore-arm behind. These were kept on about three weeks, and then passive motion was commenced.

I found the limb extended nearly to the straight position. Flexion at the elbow was very painful, and so much constrained that it could not be brought up nearly to a right angle. There was great deformity of the elbow-joint, but the inflammatory swelling had very much disappeared, so that it was easy to make out the following points. The olecranon and the head of the radius were in their proper relation to one another, and their motions upon one another, though somewhat restrained, were easy and gave no pain. The external condyle was prominent toward the outer and anterior aspect of the joint, and behind and to the outside of it was seen and felt the head of the radius, into the cup-shaped cavity of which the finger could be introduced. The relations of the internal condyle with the olecranon were but little altered, but there was nevertheless such a projection backward of the olecranon, as, in connection with the luxation of the radius, to give the joint the appearance of luxation backward of the fore-arm. That the ulna, however, was not displaced from its articulation with the humerus in the usual way appeared certain; first, because the projection backward of the olecranon, though marked, was not as great as in the complete luxation backward; and secondly, because the internal condyle and the olecranon were in almost their proper proximity to one another. The humerus, in the region of the internal condyle and of the trochlear cavity, was a good deal thickened, and apparently enlarged by the deposit of new bony matter. The whole lower extremity of the humerus was felt prominent on the anterior aspect of the joint, as it is in luxation of the fore-arm backward. From these appearances I made up my mind that the accident had been originally one of those above described, in which a fracturing off of the whole or a part of the trochlear surface had, by its yielding, permitted the peculiar luxation of the radius, and the displacement of the ulna. As far as I could ascertain, union of the broken piece had already taken place, but that union was probably still soft. I therefore recommended that the reduction should be attempted in the usual manner, by traction and flexion over the knee, and that afterward the limb should be treated as an ordinary fracture of the internal condyle, by being bent to less than a right angle and confined in this position for three weeks, beginning then with cautious passive motion. The reduction was effected as recommended, the next day, when all the deformity ceased, the union of the broken fragment being so soft as to yield without trouble, and the motions of the fore-arm on the arm became perfect. The after treatment was fully carried out; and when I saw him, seven weeks after, he was rapidly regaining the motions and power of the limb. A good deal of thickening remained about the region of the fractured condyle, but the bony prominences of the articulation had all regained their normal relations to each other, proving that the bones were in their proper position.

The diagnosis of this injury is founded, first, on the appearance of the elbow. The backward prominence of the dislocated fore-arm is not near so great as in the ordinary luxation of both bones, while the prominence of the radius is so marked that it attracts the greatest share of attention. Secondly, the relation of the internal condyle and the olecranon is almost undisturbed. A slight difference, in feeling these points on the two arms of the patient, arises from the fact that, as the fragment of the condyle is displaced backward, it is rotated somewhat upon itself, so that while the upper point of the fragment, which corresponds to the condyloid ridge, is held partly in place by the periosteum and the muscular origins, the lower part, which corresponds to the articular surface, is pushed back half an inch or more. This rolling of the fragment produces a slight difference on the two sides in the relation between the olecranon and the condyle, which can be felt, but not easily described. Where however the displacement of the fragment is more complete, we can feel distinctly the sharp point of the condyloid ridge from which the fragment has separated, as in case No. II., and here we have the relations of the olecranon and condyle unchanged. The importance of this sign, drawn from the unchanged position of the internal condyle and olecranon, which in fact is the characteristic feature of the injury, will be appreciated when we remember that in the ordinary luxation backward of the ulna, the humerus is thrown forward of the coronoid process, thereby making the olecranon to project fully one inch behind the inner condyle. Thirdly, the facility with which the luxation is reduced and the ease with which the deformity is reproduced. This is not only a striking feature of the injury, but is a reason why the treatment must be carefully conducted after the reduction, and why, when the accident is not fully understood, the original deformity would be likely to be reproduced during the treatment, and the use of the arm be perhaps entirely lost. Fourthly, the crepitus and the false point of motion, which can be best appreciated when the reduction has been effected. When the joint is much swollen, as in case No. I., or when the injury is examined some weeks after the accident, as in case No. III., this sign of course would be indefinite or entirely absent; but in a recent case, before swelling has commenced, as in case No. II., this symptom is very distinct and easily elicited.

The treatment is directly deducible from the case itself. The displacement must be reduced, and the fractured surfaces must be replaced and kept in position during a sufficient time for union to take place, and then passive motion must be cautiously commenced. The reduction is easily accomplished by drawing the fore-arm downward and, after moderate traction, bending the fore-arm on the arm to less than a right angle. The more difficult and more important indication however is to keep the bones in proper relation till the fracture shall unite. This I think is best accomplished by the plan already alluded to, of placing the elbow, bent to less than a right angle, in a tin angular splint, which may be placed either on the posterior or outer aspect of the limb, and then by moderate compression with a roller round the elbow keeping the detached fragment against the humerus as far as possible. By bending the joint at less than a right angle the ulna itself acts as a splint, and, by its support on the uninjured portion of the trochlea, holds in its place the lower or articular part of the fragment, to which it is of course attached by the ligaments. The upper point of the fragment is kept in position by the pressure of the bandage, to which might be added, if necessary, a soft compress of lint, or even, if the fragment were large, a straight splint for more thorough support. In case No. III., the gentleman in attendance applied an anterior elbow splint, and two separate ones behind, above and below. It is very evident that, without very tight compression with a bandage, and even then indirectly and imperfectly, proper support could not be given this way. I think that the splint is best placed on the outside or on the posterior aspect of the limb, as in either of these positions direct support is given against backward displacement of the joint. A splint on the inside is equally useful, but is objectionable by covering up the part which you wish to watch with most care. The splint which I have used is tin, guttered so as to receive one half of the circumference of the limb, and made to measure by the tinsmith to each particular case. It should be bent at about

10° less than a right angle, and firmly soldered, with a hole opposite the external condyle to prevent abrasion or pressure. In this position the limb should be kept for about three weeks, when passive motion and time will perfect the cure; and, from my limited experience, I should hope usually with perfect restoration of the form and function of the injured joint.

NEW YORK, APRIL, 1855.

ART. V.—*On the Use of Large Doses of Quinine in Intermittent Fevers.* By STEPHEN W. WILLIAMS, M. D., late of Deerfield, Massachusetts, now of Laona, Winnebago County, Illinois.

IT is not my intention to enter into a disquisition upon the treatment of intermittent fever, generally. This must be as variant as the symptoms by which it is diversified, and it requires as much skill and judgment in the management of this complaint as of any other specific fever. Were it otherwise, the practice in this kind of fever would be empirical, and quinine would be considered an absolute specific in it. True it is that this article is considered, by most physicians, to be the most efficacious of any which has been employed, and it is more generally used than any other remedy. But it is not the only one, and other remedies are necessary, according to the variation of the symptoms.

Our object in this investigation is to inquire, whether many physicians at the West and South are not in the habit of using it in larger doses, and more profusely, than absolute necessity requires. It is a medicine of prodigious power, as may be known from the fact that twelve grains of it, if properly prepared, contain as much of the active principle as an ounce of the bark from which it is obtained. More than two drachms of the bark, in substance or decoction, cannot be borne even by a healthy man without producing highly stimulating and irritating effects. Many physicians are in the habit of administering from ten to thirty or forty grains at a dose, and even much larger portions at once, and the quantity of quinine which is vended at our markets at the

South and West is immense. But are not such enormous doses often followed by very serious results? And are not such doses, frequently repeated, poisonous? Our best writers on the Materia Medica, such as Perrane, Wood and Bache, Lee, Drake, and many others, speak of from one to five-grain doses as generally amply sufficient, though in malignant intermittents some of them recommend larger doses, but not so frequently administered.

Doctor Lee, in a note to his edition to COPLAND'S *Dictionary of Practical Medicine*, vol. i., p. 1096, says: "After preparing the system, by blood-letting or emetico-cathartics, for the quinine, we usually prescribe it in doses of two grains every hour, commencing three or four hours preceding the paroxysm, or one grain every half hour, beginning six hours before the paroxysm. These doses will, in ordinary cases, prove amply sufficient, and no injurious consequences follow their administration."

Dr. Drake, the great medical pioneer of the West, in his voluminous and most valuable work on the "*Principal Diseases of the Interior Valley of North America*," in condensing the opinions of the most celebrated physicians at the West, says: "As to the doses in which quinine should be given, I have found much diversity of opinion and practice. On the whole, the people, and a majority of our physicians, administer one or two grain doses at short intervals, and the practice is undoubtedly, on the whole, successful. In protracted cases this mode of exhibition may be the best; but in the early stages, and when the object is (as it should be) promptly to arrest the disease, occasional larger doses are, I think, to be preferred."

In malignant intermittent fever, undoubtedly larger doses of quinine may be administered, than in simple ones. Dr. Drake relates instances where it has been administered in doses of from twenty to sixty and even eighty grains at a dose, without producing any visible dangerous effects in malignant intermittent fever. He then significantly asks, whether such doses are really necessary to arrest the paroxysm of a malignant case? He then remarks that "a majority of our physicians do not resort to such doses," and they are equally successful as those who do. He makes a very great distinction between a common intermittent and a malignant one, and says "that in very violent and dangerous cases, as the medicine *may* be administered in great doses without any empoisoning effects, it would certainly be prudent to give it liberally." There are cases in which vastly more than the usual doses of calomel, opium, and the narcotics generally, may be necessary in the treatment of individual cases of disease. Even a case is mentioned in the notes to Childe Harold's Pilgrimage, of a Turk, who by long use was enabled to take a drachm of corrosive sublimate in a day, with impunity; but these cases do not imply that these doses are proper in ordinary cases, and the same will apply to quinine in common intermittents.

Dr. Drake says: "In ordinary cases, a scruple taken in one intermission, will, I think, according to the experience of our profession, be found sufficient; and with adjuvants even half that quantity may often answer." These adjuvants are some of the preparations of opium, arsenious acid, piperine and calomel. In relation to the large doses of quinine which have been administered by army surgeons, he thinks that many soldiers are or have been intemperate, and will consequently bear larger doses than would be advisable in private practice.

Dr. Wood, in the second edition of his *Practice of Medicine*, 1849, vol. i., p. 242, is in favor of small doses of sulphate of quinine in intermittent fever. He says: "From twelve to twenty-four grains of the sulphate of quinine should be given between the paroxysms, and continued in this quantity till the disease is arrested. The effect is different in different individuals. In some cases it produces roaring in the ears, and in some partial deafness, which they experience after having taken but a small quantity. The cerebral sensations produced by it may be considered a sign of its action on the system."

In a quotidian intermittent, one or two grains every two hours will generally be sufficient; in a tertian the same dose once in four hours; and in a quartan, once in eight hours. He further says: "Some physicians are in the habit of prescribing very large quantities of the sulphate in all cases indiscriminately. From thirty to sixty, or even one hundred grains have been given during twenty-four hours. I do not remember to have found more than twenty-four grains in that period of time necessary. These enormous doses are not without risk. There is reason to believe that permanent deafness has resulted from them. One such case has come under my own observation; at least the affection was ascribed to that by the attending physician. Where there is tendency to cerebral inflammation, it would be very likely to be developed by large doses of quinine, and cases of this kind are on record. Besides, to employ the quinine so profusely in ordinary cases is to make great waste of a most valuable and costly medicine, and thus unnecessarily to enhance the price. Upon the whole, I prefer the plan of administering the medicine in small doses and often repeated, and of distributing it equally through the apynexia,—the time of sleep being as a general rule omitted. One or two grains of the sulphate may be given under ordinary circumstances every hour or two hours, until the requisite quantity has been administered."

The following note in COPLAND'S *Dictionary of Practical Medicine*, by Dr. Lee, upon the subject of intermittent fever, vol. i., p. 1095, will show that this medicine is not to be tampered with, and that the administration of it in large doses is often attended with deleterious, and even dangerous effects. The note is long, but as the work of Copland is not in the hands of every physician, I shall doubtless be pardoned for inserting it at length.

"Within a few years the practice has been introduced of giving much larger doses of this article than practitioners were formerly in the habit of administering; but the advantages resulting from this practice are not so obvious. It is not unusual to hear of tinnitus aurium, cephalalgia, loss of vision, and other affections following its use, when given in very large quantities. Trousseau mentions the case of a man who was rendered insane by having taken twenty-four grains of quinine in one day. In another instance a man took forty-eight grains sulph. quinine for the relief of asthma. Four hours after taking the medicine he experienced noise in the ears, dullness of the senses, vertigo, and severe vomiting; and seven years afterward he was blind and deaf, his mind wandered, and he was unable to walk, the vomiting of bile still continuing. Trousseau mentions that fifteen or twenty-five grains in a day often produce deafness and other unpleasant symptoms. Bretonneau calls attention to the danger of giving quinine in large doses, remarking that it causes a distinct febrile movement, preceded by tinnitus aurium, deafness, and a species of intoxication. He also states that it causes diarrhœa, and, when applied endemically, it irritates, producing considerable local pain, and unequivocal signs of inflammation. At the Hospital La Charitie of Paris, a patient recently died from swallowing a single dose of seventy-six grains of quinine, and a smaller dose produced the same result at Cochin Hospital. The symptoms were pain in the head, then tinnitus and general agitation, followed by delirium and coma; amaurosis has also followed from taking it in large doses; and death following its use in acute rheumatism became so frequent, some time since in Paris, as to excite a public discussion. (For an account of this discussion see London Lancet for February 5, 1843). After a full discussion of the subject, the French Academy have decided that the same therapeutic effects may be obtained by the ordinary doses of the remedy as by large ones. For a case of poisoning by two drachms of quinine see the *Provincial Medical and Surgical Journal,* December 23, 1843. In the *American Journal of Medical Sciences,* April, 1844, it is stated that "M. Recamier ordered for a man, twenty-six years of age, laboring under acute rheumatism, forty-eight grains of sulph. quinine in twelve powders, to be taken every hour. The next day seventy-two grains were ordered, six to be taken every hour; but after the eighth dose the patient was suddenly seized with a violent agitation, followed by furious delirium, and died in a few hours. On examination evidences of severe inflammation of the cerebral membrane were discovered." We might cite numerous cases and authorities to prove the danger of administering this potent drug in large doses; but the above will suffice to caution the physician against adopting a mode of practice fraught with such hazardous consequences to the lives and the health of his patients. (See a paper on the "*Use and Abuse of Quinine*" in the *Boston Med. and Surg. Journal*, vol. xxxii., p. 249).

We again recur to Dr. Drake, page 746. "*The Sulphate of Quinine.* This medicine cannot be referred to the class of simple diffusive stimulants, such as capsicum or ammonia, which in large doses excite inflammation and fever; nor to that of tonics, as gentian, columba, and the carbonate of iron; for although in minute and regularly-repeated doses it will, to a certain degree, excite and sustain the action and energies of the system, these effects are by no means those which characterize it as a therapeutic agent. It has, perhaps, better claims to be admitted into the order of sudorifics, for increase of perspiration generally follows its administration, if the system and the regimen of the patient be favorable to such effect. With greater propriety, however, it may be grouped with the sedative and anti-spasmodic narcotics, but not with the soporific division, for it does not, like opium, produce sleep. When its operation in liberal doses is noticed, it will be observed to diminish the frequency and spasmodic force of the heart's contractions; expand and soften the pulse; increase the functions of the skin; and tranquillize the irritation. Its sinister effects on the brain are vertigo; on the organs of sense, *tinnitus aurium*, and temporary hardness of hearing. The last is analogous to the effect of some other narcotics, as stramonium and belladonna, on the pupil of the eye. In generalizing the phenomena which follow its exhibition in considerable portions, we may say that its action is directed more on the great sympathetic, and the muscular system of the apparatus of organic life generally, than upon the functions of animal life;—another point of distinction between it and opium."

The London *Medical Times*, as quoted by the *New York Journal of Medicine*, No. L., p. 126, in an article by John Foote, Esq., says: "The sulphate of quinine has been recently tried to a very great extent, and in enormous doses, in Paris, in the treatment of acute rheumatism and of typhoid fever. Several cases are recorded where the patients recovered; but others again have been published, from which it is clear that the unfortunate sufferers died from the poisonous effects of the over-dose of quinia,—of quininism, in fact." The *New York Journal* observes: "In France, this new method of treatment, more especially as regards rheumatism, seems to have been carried to an unwarrantable extent. In a letter from Dr. F. Campbell Stewart (now of this city) from Paris to the *Medical Examiner* of Philadelphia, it appears that Dr. Briquet, one of the physicians of the Hospital Cochin, lately published an account of eighteen cases of acute anticular rheumatism, which had been completely cured by very large doses of quinine. The practice was immediately generally adopted in Paris; but, in a short time, the zeal of those in favor of this new practice was damped by the death of five persons, evidently produced by the indigestion of these enormous doses of quinine. A case of rheumatism is mentioned where fifty-six grains were administered at a dose, increased to sixty-seven grains. By the time he had taken three and a half grammes, he was suddenly seized with extreme agitation, followed by furious delirium; and, in a few hours, death ensued. Dissection revealed the signs of general and most intense meningitis."

The sulphate of quinine, then, being a medicine of such active and prodigious power, and the administration of it in large doses being often attended with deleterious, and sometimes even with fatal effects, and the use of it being so very expensive, it is much to be hoped that an article may be found equally efficacious, less dangerous, and less expensive. And many distinguished physicians and medical botanists are now turning their attention to it with unwearied assiduity; and some think that they have discovered remedies which are more safe, equally efficacious, and more economical as to price. Many other discoveries require to be tested by longer experience, and to be more generally employed, before they will receive the sanction and general approbation of the great body of the profession. I pass over the more than thousand *absolute specifics* for intermittent fever, which have been employed in common practice, and are to be found in newspapers and *laical* journals. These may be classed with the *certain cures* for dysentery, cholera, erysipelas, burns, and various other complaints incident to the human body. If reliance were to be placed upon these and many others which might be mentioned in other complaints, the period would have arrived predicted by some, even in the profession, that death, except from accident and old age, would never occur. But unfortunately most of these boasted specifics are empirical, and not to be relied on.

On account of the incertitude of many other articles beside the quinine, Dr. Drake remarks: "And here I cannot refrain from observing that in a country of such vast extent as ours, many parts of which, from their topographical structure, must for ever remain subject to intermittent fever, it should be regarded as a duty of patriotism and humanity to test by exhibition and analysis such of our indigenous plants as in their sensible qualities bear any resemblance to the cinchona. He who should discover in our country a substitute for the bark out of which the sulphate of quinine is manufactured, would be honored as a benefactor."

I propose to look into some of our authorities for some substitutes for quinine, or at least for some which may be employed in its stead in the more ordinary cases of intermittent fever, and perhaps be efficacious in more severe cases.

This has already engaged the attention of some of the ablest men in our profession, and I trust with some success. I regret that I have it not in my power to enter more deeply into the investigation.

The medicine which next to quinine has been most extensively employed in the treatment of intermittent fever is arsenious acid, and particularly that preparation of it called Fowler's mineral solution of arseniate of potash. Many of the most distinguished physicians in this country and in Europe employ it, almost to the exclusion of quinine. My friend, Dr. Amasa Trowbridge, of Watertown, Jefferson county, New York, formerly Professor of Surgery in the Willoughby Medical University of Ohio, told me that in a very extensive practice in this complaint, he scarcely employed any other remedy, and his practice was very successful. Beginning with doses of four or five drops, it rarely becomes necessary to increase the dose beyond twelve or fourteen drops. If given much beyond this extent it sometimes produces an anematous state of the system, swelling of the extremities, affections of the stomach, and many other symptoms consequent on the poison of arsenic, which are so familiar to physicians that they need not be enumerated. It is rarely, however, carried to that extent in the treatment of this complaint. As physicians are acquainted with the toxicological effects of this medicine, they are guarded in the use of it, and consequently less danger is to be apprehended from it than from large doses of quinine.

Various preparations of the peruvian bark, such as cinchonium, quinoidine, the extract of bark, as well as the bark in substance, have been employed in the cure of intermittent fever, and, according to the testimony of many eminent physicians, with success. Indeed, the peruvian bark in substance was more generally employed than any other remedy, until within a period of twenty-five or thirty years. I have heard of no deleterious effects resulting from the use of the bark in this way, or in the other preparations of it except the quinine. Dr. George L. Upshur, surgeon to the

U. S. Marine Hospital, Norfolk, Va., has given the details of thirty cases of intermittent fever, in the *Medical Examiner* for December, 1854, in which perfect cures were effected by quinoidine alone, and there was no return of the complaint. Other physicians have also been successful with it. He uses it in doses of from two to four grains.

Quinine and Tartaric Acid in Intermittent Fever.—I find the following in the *New Jersey Medical Reporter* for July, 1854, on the use of this medicine, by Drs. Batella and Bartilli. (*Med. Chirurg. Review* and RANKING'S *Abstract.*) Two years since, M. Bartella brought forward his plan for the more economical treatment of ague by administering equal parts of sulphate of quinia and tartaric acid. He now (*Bull. de Therapeutique*) reinforces his former statements by new facts, having treated altogether 208 cases in this way, 196 of these being simple intermittents, and twelve pernicious fevers. Dr. Bartilli, who has been pursuing the same experiments, states as his conclusions (*Gazette de Hop.*, No. 87): 1. That sulphate of quinia given with equal parts of tartaric acid is more active than the simple sulphate. 2. As a general rule, half the quantity of quinia so combined suffices; but in some descriptions of fever, as in the pernicious ones of Italy, larger doses are required.

Many of the alkaloids of some of our indigenous medical tonics are much thought of by several eminent physicians, such as those produced from the various species of cornus, or dogwood, particularly of cornus floridæ and sericea, under the name of corneine; of the willows, under the name of salacine, etc. etc. Decoctions and powders of the various species of quercus, or oaks, eupatorium peroliatum, sabattia angularis, the various species of snake-root, chamomile, pinckneya pubens, aconitum napellus, alnus serrulata, capsicum, liridendron tulipifera, the various species of prunus, lupuline, and various others, too numerous to recapitulate.

The *hydrocyanite of iron*, or prussiate of iron, has been highly extolled by that excellent practitioner and learned physician, Dr. Samuel Jackson (of Northumberland,) Philadelphia, in the second volume of the *American Journal of Medical Science* for 1825. He does not consider it superior to the various preparations of the bark, if equal to it, in all cases. But he says, "This medicine appears to have five advantages over bark. 1. It can be given when inflammation is present, without sensibly aggravating it. 2. It is less likely to do harm when taken without medical advice. 3. It may be given in the advanced stage of remittent fevers, when we are yet doubtful of the propriety of the bark. 4. It may be useful in persons whose idiosyncrasies would seem to rebel against bark. 5. It is a much less expensive remedy." I refer the reader to this most interesting paper of Dr. Jackson.

Dr. Bertozzi, of Cremona, has proposed to substitute the hydrocyanoferrate of quinine, for quinine in fever, the powers of which, under the worst forms of intermittent fever, have been completely established." *(Dub. Jour. Am. Med. Jour.)* G. Geniole, M. D., in the *Archives Generale*, Dec. 1832, and *Annali Univ.*, 1832, highly recommends the ferrocyanite of quinine in intermittent fevers, in doses of from one to two grains, and thinks it may be a useful substitute for quinine. *(Am. Med. Jour.*, No. 24.) Dr. Gouzer, of Antwerp, has cured three cases of intermittents by this remedy, in doses of a single grain, half an hour before the paroxysm; and Professor Berandi has recommended the citrate of quinine in intermittent fever, in doses of one third of the quantity of sulphate of quinine, and says it agrees better with the stomach, and causes less congestion of the brain. Dr. Spielman, in the *Jour. Des. Conn. Med.*, Febr. 1836, "asserts that the muriate of quinine is a more speedy and effectual remedy in intermittents than the sulphate. It is more soluble than the latter. The dose is from half a grain to a grain." *(Am. Med. Jour.)*

The chloride of sodium is highly extolled as an anti-periodic and remedy in intermittent fever, in the *New Jersey Medical Reporter*, by Dr. Edward D. G. Smith. This remedy was first suggested by Dr. Piorry, of Paris, who administered it successfully in doses of two table-spoonsful, once or twice a day. He says this dose as promptly arrests the paroxysms as quinine. The observations of Professor Herrick, of Rush Medical College, corroborate the statements of Dr. Piorry, and he has been quite as successful in the use of it. He gives it in doses of three or four drachms twice every day in mucilage. Dr. Smith thinks that there is less tendency to the return of the disease at the expiration of a week, when cured by the chloride, than when quinine or arsenic is used, and he further says: "My friends, Drs. Eyrich, and L. G. Thomas, who have both given it successfully in many cases, are of the same opinion." As some patients would object to the common salt, Dr. Smith disguises it by rubbing it up with red saunder and a few drops of the oil of anise. Dr. Dugas, of Paris, highly recommends this medicine in intermittent fevers. J. S. Wilson, M. D., of Alabama, according to a statement in the *Southern Medical and Surgical Journal*, has employed this remedy and been successful with it, in a case which had resisted quinine and Fowler's solution.*

Dr. S. S. Purple, one of the editors of the *New York Journal of Medicine*, has published an elaborate and most able article in the September No. of that Journal for 1854, upon the *simaba-cedron*, as a substitute for quinine, and has given a beautiful engraving of the leaf, flower, and cotyledons of that tree, which is found growing in "New Grenada. Banks (near San-Pablo) of the Magdalena, *W. Purdie*, Isle de Caybo, coast of the Pacific, *Thomas Seemann*." A friend of Dr. Purple from Kingston, Jamaica, sent him a package in 1853, containing a pound of these cotyledons. He employed the powder of these cotyledons in five cases of intermittent fever, in doses of from ten to twenty grains, with success, and in 1854 he treated six other cases exclusively with cedron, with the following results: "Four with cure, prompt and permanent; one passed from my observation before the result was known, and the other is still under observation, having resisted emetics, quinine and beberine previous to consulting me. From these results, and those obtained in neuralgic cases, which we think are unnecessary to detail, there can hardly arise a doubt but that the cotyledons of the simaba-cedron possess decided anti-periodic properties. And in this belief we do not stand alone. Dr. Cespèdes, of Bogota, M. Herran, of France, Dr. P. Smith, of San Francisco, Cal., and Dr. Magrath, of Jamaica, W. I., have each testified to its decided medicinal virtues in this respect."

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* See also an able article by DR. J. C. HUTCHISON, on Common Salt in Intermittent Fever, *New York Jour. Med.*, March, 1854.

The following, according to Dr. Purple, are among some of the conclusions drawn from the medicinal use of the simaba-cedron:—"That it possesses anti-periodic properties, and is therefore applicable in the treatment of periodic diseases—that it is less likely than quinine to produce the aggregate of encephalic and neuropathic phenomena induced by over doses—that as a remedy in intermittent fever it possesses properties, in many respects, equal to quinine, and is equally adapted to the curation of this disease—that it possesses marked tonic properties, and deserves a prominent place in the classification of the Materia Medica—that, should a demand arise for its use in medicine, it is believed it will be found not difficult to obtain a supply in quantity sufficient to afford it at a much less price than quinine. This, surely, is a desideratum."

I have thus given some authorities for the assertion that large doses of quinine have sometimes been attended with deleterious and even fatal effects, and mentioned several substitutes which have been employed by many of the most eminent men in the profession, successfully, in intermittent fever. This investigation might be carried to a much greater extent; but I leave it to abler hands. I hope it will stimulate others to prosecute the inquiry, and that the results of their observations will be the discovery of other remedies, equally efficacious, less dangerous, and less expensive than the sulphate of quinine, as now often administered. The subject is surely worthy of the most attentive consideration.

ART. VI.—*On the Use of Thuya Occidentalis, (Arbor Vitæ,) in the Treatment of Cancer.*—By J. R. LEAMING, M. D., Physician to the Northern Dispensary, N. Y.

ABOUT the first of July, 1854, my attention was called to a little girl, not quite three years old, who had received a slight injury of the hand, as was supposed, from a fall. I directed the application of cold water, and the swelling and the soreness disappeared. On the 12th of September I was called to see the child, and found a purple tumor, not distinctly defined, occupying and complicating the flexor muscles of the thumb. The veins leading to the tumor were enlarged and tortuous. The tumor itself was not tender, and the bone was not implicated. It had the peculiar elastic feel of erectile tumor. I learned that it commenced growing about two weeks previously. I informed the parents of my fears respecting the malignant nature of the disease, and requested a consultation. Accordingly the next day Dr. W. H. Van Buren saw the case with me, and confirmed my diagnosis. On the 20th of September, Dr. Van Buren met me again, and explored the tumor with a grooved needle. A glutinous matter was obtained, indicating that the disease was of the colloid variety. The treatment directed was small doses of hydrarg. bichlor in tr. cinchon. co., the hand to be painted every day with tr. iodine and poulticed.

The disease rapidly increased, attacking the carpal and meta-carpal bones, the back of the hand became thickened and hard, and the veins large and tortuous. An abscess formed where the exploration was made and discharged healthy pus. Still the tumor increased in size.

Being informed by a medical friend of the successful employment of thuya occidentalis in a case of rapidly-developed fungus-hæmatodes of the eye—the tumor gradually subsiding under its use, and returning on its intermission, but finally completely disappearing on persisting in the employment of the remedy,—I determined to resort to it in this case. It was of course a forlorn hope; but the character of the disease warranted any course of treatment which offered a shadow of success. The child was accordingly put upon the use of a tincture of the leaves of this tree. In two weeks the appearance of the hand was changed; the tumor had not increased in size. In two weeks more, the disease was evidently subsiding, the tumor was smaller, the back of the hand was not so thick and hard, and the veins were not so large.

On the 29th of October, the father of the child was attacked with severe inflammatory rheumatism of the right knee-joint. The disease resisted the treatment, only partial relief being obtained from hydrarg. mass and ext. conii, tr. colchic., sem. potass., iodid., potass nitrat., etc., till the 10th of November, when the pain was relieved. At four o'clock, on the morning of the 11th, I was called to see the patient, and found that he had vomited half-a-pint of blood; soon after I arrived, he vomited more, making in all about a quart of moderately fresh looking blood. I gave him fifteen drops of spts. terebinth, and sent a messenger for Dr. Geo. P. Cammann to meet me in consultation. Dr. C. soon arrived, and carefully examined the patient. We agreed upon the following diagnosis; that there was an old trouble of the liver, most probably cirrhosis, and that the hemorrhage was from the portal circulation induced by this biliary trouble.

For a few days the patient took nothing but mulled wine and beef-tea. Altered blood passed from the bowels twenty-four hours. Forty-eight hours after the first hemorrhage he vomited a small quantity of blood, and passed altered blood for thirty-six hours afterward. The bowels were tympanitic, pulse one hundred and ten, skin moist, tongue furred. The patient presented a yellowish, waxy appearance. He was directed to take hydrarg. sub. mur. one grain, and ext. taraxici twenty grains, every day or every other day, for the purpose of bringing the system gradually under the influence of the mercurial. Healthy bile was obtained in the evacuations, but there was no improvement in the patient's health. At this time, reflecting upon the case, I came to the conclusion that there was malignant disease connected with the liver. My reasons were, the appearance of the patient, the history of the case, and the history of the patient's family. His mother died when he was a child. Three years before her death a purple tumor appeared on her hand. It resisted treatment, and the hand was amputated. Six months before her death she vomited blood, and died of some internal disease. His mother's brother died of cancer of the lip. His sister vomited blood and died of some internal disease. His little daughter is under treatment for cancer of the hand.

At my next meeting with Dr. Cammann, I stated my earnest convictions respecting the malignant nature of the disease connected with the liver. Dr. Cammann believed the disease was of long standing and of a very serious nature, but that we needed further evidence to warrant us in making up a certain diagnosis.

On the 30th of November, Dr. Valentine Mott saw the patient with me in consultation. The patient at this time was very tympanitic; there was also a small quantity of fluid in the peritoneal cavity. The heart was pushed up from its normal position, so that the impulse was felt above the nipple. He was weak, tongue furred, pulse one hundred and ten, skin moist, and urine scanty.

After examining the patient and hearing the history of the case and of the family from me, Dr. Mott's diagnosis was cirrhosis of the liver with a suspicion of malignant disease. I commenced giving the thuya in tinct. made in the following manner: The leaves and small twigs were crowded into a jar and then covered with alcohol; half a teaspoonful every three hours. The rheumatism had entirely subsided after the hemorrhage; still there was no improvement in the patient's health.

On the 6th of December, Dr. Willard Parker saw the patient in consultation with me. After a careful personal examination, and hearing the history of the case and of the family from me, his diagnosis was cirrhosis of the liver and suspicion of cancerous disease.

The patient seemed to be rapidly sinking. I increased the dose of the thuya to two teaspoonfuls every three hours, and gave in addition a mixture composed of hydrochlorate of ammonia and chlorate of potass., each ʒi., and cinnamon water ℥vi., a tablespoonful every hour or two. He seemed to improve almost immediately, his appetite became good, and he gained strength rapidly. A week after Dr. Parker saw him he was able to walk into an adjoining room and sit there most of the day. The 12th of December, I found a small tumor in the left side on a line with the heart, just under the ribs. In giving it an impulse it would leave the hand and return to it, giving the sensation of the fœtus in ballotment. The tumor grew rapidly, and I could notice an increase in size at each examination.

On the 18th of December, Dr. Cammann made a careful examination of the tumor. It rested upon the kidneys, and evidently was the cause of the displacement of the heart. It extended over toward the right side beyond the median line and downward almost to the umbilicus.

There was more urine secreted than there had been; still the dropsy gradually increased. A great variety of active diuretics had been used without any beneficial effect; indeed they all seemed to do harm, consequently he was confined to the thuya and mixture of hydrochlorate of ammonia and chlorate of potash.

On the 4th of January, the dropsy having increased so much, it was decided to relieve the patient by tapping. On the 6th of January, at the patient's request, Dr. W. H. Van Buren was called and drew off thirteen quarts of amber-colored fluid highly charged with albumen. In a week he was able to walk about and ride out, driving an open carriage several miles into the country with enjoyment and benefit. With the exception of the physical inconvenience of the tumor lying on the kidneys and the portal veins, the patient seemed to enjoy better health than he had done for some years.

The dropsy rapidly returned, and tapping was necessary again in two weeks. Dr. Van Buren performed this operation five times at intervals of two weeks. After the fifth tapping extensive peritoneal inflammation set in, and the patient died on the 5th of March.

A post-mortem examination was not allowed. This is much to be regretted, as it would have settled some points of interest—the malignancy of the tumor, its connection with the left lobe of the liver, and whether the extensive peritoneal inflammation was caused by the escape of matter from the tumor into the peritoneal cavity. Of the first two points there can be scarcely any doubt; still it would have been a satisfaction to have had the question settled beyond all cavil. The third point is quite probable from the sudden onset of the peritonitis.

The most important fact in the history of this case is the decided benefit received from the use of the thuya and the mixture of hydrochlorate of ammonia and chlorate of potash. Immediately after commencing the use of these remedies the stomach and liver resumed their natural functions, and the symptoms of cirrhosis disappeared. The action of the kidneys was also much improved.

During the early part of the father's severe illness, the child was neglected and the thuya discontinued. The hand became worse, and the disease again attacked the carpal bones. When the thuya was prepared for the father, the child again commenced its use, taking fifteen drops every two or three hours. In a short time its benefit was quite perceptible. At the present time only a trace of the disease remains, and the remedy will be persisted in till the child is well. The hand will remain permanently injured and probably will be atrophied.

Thuya occidentalis, or arbor vitæ, belongs to the pine tribe (coniferæ), is a native of this country, and is cultivated in our gardens. The leaves are the parts used medicinally. They are described in the *U. S. Dispensatory* as having an "agreeable balsamic odor, especially when rubbed, and a strong, balsamic, camphorous, bitter taste."

The thuya has long been used for medicinal purposes, but with no settled opinions in regard to its therapeutic properties. It has thus been employed in intermittent fever, scurvy, rheumatism, and as a stimulant, diuretic, diaphoretic, and vermifuge. In the *Revue de Therapeut.* (Jan. 1st, 1855), there is a notice of the thuya having been recently employed by a Hungarian physician in the treatment of venereal excrescences which had resisted mercury, cauterization, and excision. He employed the tincture, using three pints of the leaves to six of rectified alcohol, applying it from time to time with a brush. The excrescences rapidly diminished in volume, and a radical cure is reported to have been obtained in five days.

Thuya occidentalis is a new remedy for cancer. There have been a great many new remedies for this dreadful disease before, which upon trial have proved utterly valueless; so it may be with this. Two or three recoveries do not prove the value of a remedy. These cases are related that it may receive a more extensive trial; and if others should find it in a large proportion of cases as beneficial as it has been in the cases I have related, it is one of the greatest boons conferred upon mankind.

ART. VII.—*Statistical Observations on Wounds of the Heart, and on their Relations to Forensic Medicine, with a table of forty-two recorded Cases.* By SAMUEL S. PURPLE, M.D.

THERE is probably no opinion relating to medicine, more deeply rooted in the public and perhaps professional mind, than that which regards all wounds of the heart necessarily, and in most cases immediately fatal. In order to ascertain how far this opinion is or is not founded on fact, we have taken no small degree of pains to collect and arrange in the following tables a large number of authenticated instances of this class of injuries. In most of the recorded cases of this accident, death, though not immediately occurring, has sooner or later followed the injury. To what cause or combination of causes the delay of the fatal result in a large majority of these cases may be attributed, is a question of deep interest to the physician and medical jurist. That punctured, incised, and even gun-shot wounds of the heart are not necessarily mortal, is fairly demonstrated in the collection of facts here presented; for in more than one case the recipient of such wounds has lived for months, and in two, even years after such injuries, and finally died of some other disease. Vide cases 1, 2, 11 and 34.

The ability of the heart to perform its functions, in many cases after the receipt of severe wounds complicated with the presence of foreign bodies in the organ, is truly surprising. In Cases 1, 10, 29, 30, of our collection, the facts bearing upon this point are almost astounding in their character. In the case of Dr. Randal, (Case 1,) three shots were driven through and found lying loose in the cavity of the right ventricle, and two in the cavity of the right auricle; the wounds caused thereby having completely cicatrized; the boy lived sixty-seven days, and apparently died of the results of inflammation of the lungs. In Case 10, a portion "as large as a full-sized writing quill" of the stock of the gun that had burst, was found fixed in the middle third of the left ventricle, where it had remained forty-seven days. Erysipelas of the leg occurring on the forty-second day, resulted in death five days after its supervention. The case of Dr. Constantin (Case 29) is in many particulars equally remarkable. The patient in a fit of insanity cut and stabbed himself in a horrible manner over the face and chest, particularly the left side. Amongst the wounds inflicted were two particularly conspicuous on account of their large size; one, seven or eight inches in length, was placed between the fourth and fifth ribs of the right side about three inches from their sternal articulation. The other, fourteen lines in size, occupied the space between the xyphoid cartilage and the costal cartilages on the left side; at first syncope ensued, but this lasted for a short time only. After the wounds had been attentively examined they were dressed by adhesive plaster, etc., and the patient was placed in bed and strict tranquillity of mind and body enjoined. The pulse was found now to be regular; there was no cough, and the respiration was free. The following night was passed calmly; the respiration, however, was a little impeded; the pulse was still regular and there was no cough. The following day there was but little change in the patient's condition, except, perhaps, augmented thirst. The third day the pulse retained its regularity, but in the evening the patient complained, at intervals, of sharp pain in the right hypochondrium, frequent cough and increased thirst. Twelve leeches applied to the right side the morning of the fourth day; the pain still remaining, gradually extended itself over the whole hepatic region, the pulse wiry and small, and embarrassment of respiration increased; six leeches to the side. The difficulty of respiration increased rapidly, insensibility came on, and at 5 o'clock, P. M., the patient expired four days after injury. On dissection, it was perceived with extraordinary surprise, that the heart was traversed from side to side by a paper scraper of ebony, having a straight handle; the right ventricle and auricle were both wounded. It is difficult to conceive how the wounding instrument could be lodged so completely in the posterior part of the heart. The following is Dr. Constantin's explanation, which renders this circumstance intelligible: "It is necessary," says he, "to suppose that the weapon was plunged into the chest at the moment that the heart's point was elevated, and that the patient employed a tile, which was found near him, covered with blood, to drive the instrument thus deeply into the viscus."

While engaged in the collection of these materials, numerous cases were found where foreign bodies had been lodged in the heart for a long time, without any wound of this viscus; two of these cases have been considered of sufficient interest to deserve a place in these tables. They have accordingly been appended to them. In Case 42, a soldier received a gun-shot wound near the left axilla, from which he died ten weeks after. On dissection the ball was found in the cavity of the left ventricle, and firmly bound down by the cordæ tendineæ and columnæ carnæ. No cicatrix on the heart could be found, and the presumption was that the ball must have perforated the pulmonary vein, and thus passed into the left auricle, and ultimately into the ventricle. But Case 41 is still more remarkable, for in this case a stick three and one half inches long, and one half inch in diameter, was found in the cavity of the right ventricle; the patient lived thirty-seven days. In what manner this foreign body found its way into this cavity it is difficult to say.

In the present compilation we have included no cases of the smaller variety of punctured wounds of the heart. However innocuous these may appear to be from the numerous experiments of acupuncturation performed by Russian surgeons, a dangerous result is quite certain to follow if the instrument which produced the wound is allowed to remain impacted in the organ. A case illustrating this point is reported by Dr. Graves.* A man, for the purpose of self-destruction, cut his throat, previous to which, however, he pushed a large "darning needle" between the fifth and sixth ribs, and directly over the heart. The person having confessed the fact, and Dr. Graves having observed a puncture at the point indicated, an incision was made down to the pleura, and afterward through it, when the needle was seen fixed in the heart. When removed by the forceps, a forcible stream of blood followed. The patient lived eight days after its removal, dying with well-marked pleurisy. On dissection the left ventricle was found to have been perforated by the needle, and in the muscular wall of this ventricle a small cyst containing pus. A somewhat similar case is reported by Dr. O'Connor,† in which suicide was attempted by introducing a needle $3\frac{1}{2}$ inches in length between the fifth and sixth ribs, over the region of the heart; by incision and the use of a watchmaker's pliers, its removal was effected, and the patient recovered, not, however, without the most prompt and efficient antiphlogistic treatment. He lived upward of ten years. The case observed by M.

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* *The Annalist.* Vol. 2, p. 56, New York, 1847-8.

† *Medical Gazette,* (London). Vol. 17, p. 82.

Trelat[*] is also worthy of notice here; a young woman in a fit of despondency plunged a needle into the region of the heart, between the sixth and seventh ribs. She immediately declared that she was about to die. On examination the presence of the foreign body could not be detected; and there was complete absence of any heart disorder. On the third day she complained "that a large needle was allowed to remain in her heart." An incision was now made at the point indicated, and where there was a puncture, and its removal was effected by a pair of dissecting forceps. The needle, which was two inches in length, presented a somewhat corroded appearance, and had been plunged perpendicularly into the heart. The patient recovered.

A curious circumstance attendant upon gun-shot wounds of the heart is that in which the ball causing the wound has penetrated the walls of the chest, and produces a perforation in one or both ventricles, but there is no corresponding wound in the pericardium. A case of this character is reported by Professor Holmes,[†] of Montreal. The patient, a young man, lived but a short time after the receipt of the injury. On dissection, the anterior wall of the right ventricle contained a transverse linear opening, sufficiently large to admit the finger. Corresponding to this opening in the heart was observed a bloody echymosed condition of the cellular substance lying on the pericardium, which led to the inference that the pericardium had been driven before the ball and into the heart while this organ was in the act of contraction, its fibers being hard and rigid from their muscular contraction. The ball was found loose in the cavity of the pleura. Morgagni[‡] mentions a case as quoted from Boirellus, where a man died four hours after a gun-shot wound in the breast. On inspection after death, the pericardium was found entire, but distended with blood, and a wound completely through the right ventricle. The bullet was found in the cavity of the pleura. He supposes that the ventricle was in a state of dilatation at the instant the percussion occurred.

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[*] *Southern Medical and Surgical Journal* (N. S.), vol. ii., p. 250, from *Bulletin Generale de Therapeutique.*

[†] *British Amer. Jour. of Med. and Phys. Sci.*, vol. i., p. 227. Montreal, 1845–6

[‡] *Seats and Causes of Disease.* By MORGAGNI, translated by ALEXANDER. London, 1769, vol. iii., p. 193.

We have said that the cause of delay in the fatal termination of wounds of the heart is a question of deep interest to the physician and medical jurist, for upon this point, in a great measure, rests not only the question of their curability, but also their forensic relations. What the circumstances are which tend to increase their fatality are worthy of careful consideration. That variations in character, size, situation, and complications influence such a result is certain. But these particulars do not combine all that enters into the circumstances of their curability; the state of the patient's health before he receives the injury, and the treatment pursued in the subsequent management of the case, have an important bearing upon the result. Perhaps we need no better explanation of the force of this remark, than the numerous facts furnished by wounds of the chest in general, and those of the lungs in particular. In military practice these wounds, although conceded to be in a high degree dangerous, are by no means regarded as necessarily fatal. Repeated instances are furnished by almost every surgeon in active service, of entire recovery from such wounds—not however generally without the most active treatment. It is upon this latter point in some of the cases here reported, in the opinion of the reporters themselves, that the want of success depended. Let us therefore proceed to the answer of the question, to what cause can we attribute the great difference in the duration in life in the cases here collated? This question we have no doubt has already arisen in the mind of every reader. A satisfactory answer to it would, we believe, throw much light upon the all-important question of the curability of heart wounds. In Case 19, where death occurred immediately on the receipt of the wound, it is clearly manifest that it was due to the extensive character of the wound, the number of parts injured, and the immediate distention of the pericardium with blood to complete fullness.

In Cases 13, 14, 15, 22, and 26, it would appear to have been due to the formation of a coagulum in the wound serving as a plug; while in Cases 11 and 17, it is almost certain that it was due to union by first intention, and death, that followed, was the direct result of inflammatory complications. The character and direction of the wound may also contribute to the delay; for if the wound be an incised one, and its long diameter is parallel with the external fibers of the heart, the formation of a clot will be more certain. The want of parallelism in the fibers of the heart evidently favors the formation of clot. This view is especially insisted upon by M. Dupuytren, whose writings have more fully made known the possibility of the curability of small penetrating or punctured wounds of the heart.

By some, instant death is attributed to the sudden loss of blood exhausting the heart; by others, as in Cases 8, 17, 19, 23, 25, and 38, to the compression this organ undergoes from the accumulation of blood in the pericardium—suspending at once the heart's functions. In those cases where the hemorrhage is profuse, the result must be in part due to such causes. This explanation is still further supported by the facts furnished in cases of sudden rupture of the heart; here death in most cases is immediate. But these alone do not afford an explanation of the cause of sudden death in all cases. The study of these cases has led us to believe that the concussion or shock of the organ has more to do with sudden death, than any other one cause. A careful examination of all cases of injury of the heart, shows that the primary symptoms are combined in the presence of shock; the suspension of the movements of the organ, the cold clammy sweat, the death-like pallor, syncope, and the suspension of consciousness, all spring directly from the shock, and are present in a large majority of gun-shot, incised, and the larger punctured wounds. In those cases in which the patient survives the shock, and reaction supervenes, death occurs from other causes. Here it is due mainly to the occurrence of inflammation, in some one or other of its forms, consequent upon the injury done to the pericardium or lungs. In Cases 1, 4, 9, 18, 26, 39, etc., this was most clearly the case.

Symptoms—If we except those punctured wounds caused by needles and the like kind of instruments, the symptoms which arise from gun-shot, incised, and the larger punctured wounds of the heart, vary but little in character. On the receipt of injury we have generally hemorrhage, weakness, syncope, great paleness, great anxiety and oppression, cold sweat, vomiting, with sooner or later, not unfrequently, complete collapse. The breathing is short and gasping, the pulse feeble and intermittent, the heart's action scarcely, if at all, perceptible. In the course of from one to eight hours, signs of reaction set in; not unfrequently after vomiting the dyspnœa and cardiac oppression is in a measure relieved; then palpitations not unfrequently arise with a peculiar trembling of the organ, with irregular pulse. The diagnosis of wounds of the heart is decidedly illusive. M. Jobert* (de Lamballe) is of the opinion, however, that he has discovered a pathognomonic sign. The following are his conclusions in regard to their diagnosis: 1st. That penetrating wounds of the heart give rise to a peculiar sound, resembling aneurismal varix. 2d. That they are accompanied with a constant convulsive affection of the muscular fibers of the heart. 3d. That the sound indicated above ceases as soon as a clot closes the orifice of the wound. 4th. That the muscular disorder of the heart continues after the formation of the clot. Cases 30, 31, 32, 33, are the only cases in our collection in which the sound resembling varicose aneurism, mentioned in the first conclusion, was noted. The character of the hemorrhage, when occurring externally, may prove of considerable assistance in forming a correct diagnosis; and this will prove particularly so if it issues per saltum, or in interrupted jets, and is isochroneus with the beats of the heart. Our researches convince us that the most clear diagnosis which we can arrive at from the collation of the symptoms in this collection can be at best but presumptive.

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* *Archives General de Medicine,* Sept., 1839.

We have said that the diagnosis of these wounds is uncertain. For the elucidation of this subject we have instituted a rigid search into the reported symptoms of every case here collated, but have failed to discover any rational symptom, or combination of symptoms, which will render certain their diagnosis. It is this fact that has led to the exclusion from the table of all cases of reported recovery where the rational symptoms alone were relied upon by the reporters for the belief that such a wound had occurred. In so doing there is a probable reason that we have excluded cases of actual recovery from the collection. The case of Dr. Lavender[*] may be such a case. A student, aged 19, in good health, was stabbed by a knife, the blade of which, three inches in length, and three fourths of an inch in width, entered the left side, between the fourth and fifth ribs, at the cartilaginous extremity. In five minutes after the injury Dr. L. found him vomiting, "with jaws rather rigid, cold sweat on his face, eyes drawn back, respiration irregular, interrupted, and terminating in deep sighs; action of heart entirely suspended; from the wound was flowing venous blood in a continuous stream; not less than a gallon of blood was lost." The patient was placed upon his back, and towels dipped in cold water were dashed over his chest, camphor sprinkled in his face, and free ventilation obtained. The flow of blood stopped instantly; the breathing, however, continued oppressed, interrupted, and somewhat stertorous. Five minutes after a slight flutter was felt in the heart, and by the palm of the hand, for a minute or more at irregular intervals, when pulsation became perceptible. Four hours after reaction began to appear; he was exceedingly restless, and complained of intense suffering; pulse 120, and intermitting; respiration interrupted. For the next three hours, from 12 to 3, A. M., but little hope was entertained of his living till daylight; his restlessness, however, was relieved by the use of full doses of morphine. The subsequent progress for thirty days is carefully reported; the treatment, suffice it to say, was, throughout, antiphlogistic, mild mercurials, etc.; while absolute rest, in the horizontal position, was maintained for sixteen days, during which time the patient's urine was removed by means of the catheter. The patient's diet was principally water-gruel and strawberries. One month after the receipt of the injury he was able to be removed to his home; but for about two weeks there existed a distinct bellows sound in the heart, whose swell was not synchronous with arterial pulsation. This sound grew less and less distinct until it was entirely lost. Dr. Lavender believes that the right ventricle of the heart was opened, and as such reports the case. In his comments upon Dr. Trugien's case (Case 17 of our collection), he expresses the opinion that the liberal diet and improper exercise of the patient was the cause of the fatal termination. "Had this patient (says he) been confined on his back, and restricted to water-gruel for twenty days, he possibly might have lived."

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[*] *Proceedings of the Medical Association of the State of Alabama for* 1850. Mobile, Ala., 1851. 8vo., p. 104.

Treatment.—The general principles which guide the surgeon in the treatment of wounds of the chest, apply with equal force to all wounds of the heart. Too much stress must not be laid on the apparent necessity which exists to arrest syncope, and prevent the tendency to collapse, by a free resort to stimulants. The cases before us show conclusively that there is less danger of collapse, and more of reaction and the consecutive fever. As the chances of success are much increased by the formation of a clot in the wound, immediate steps should be taken to close the external wound by adhesive plaster and appropriate bandages, and these should only be removed in case there is reason to believe that the dyspnœa and sense of suffocation are greatly increased by restraining the external hemorrhage. In the case of the Duke de Berry this course (the removal of the dresses to allow of the exit of the accumulated blood) was pursued by M. Dupuytren, and Steifesand attributes to it the quicker or more immediately fatal termination of the case.

When reaction becomes established, the great indication is to control its severity, which may be done by bleeding and strict antiphlogistic treatment. But this can only diminish the quantity of the blood, and, in a measure, moderate the action of the heart. To diminish the heart's action is an important point in the treatment; and, while we enjoin perfect rest on the part of the patient, the fact that we possess in the veratrum viride a powerful and reliable agent for controlling the heart's action, should not be lost sight of. That the severe reaction which frequently follows this class of injuries may be judiciously controlled by this remedy we have every reason, *a priori*, to believe. In the administration of it, however, owing to its nauseating and powerful depressing effects, caution should be used and its effects carefully watched. A moderate mercurialization of the system should also be instituted as a safeguard to the inflammatory complications which frequently arise, and which, when established, increase in a tenfold degree the mortality of these wounds.

Rest, absolute rest, is an important and powerful auxiliary in the treatment of this class of wounds. In a medico-legal point of view, to say nothing of the ethico-morale of the act, it will not do for the surgeon to become deceived by the temporary calm which very frequently follows the first reaction. The least effort on the part of the patient may be followed by fatal syncope. Cases 17, 18, 35 and 36 are forcible illustrations of the truth of this remark. In the first of these cases (Case 17), on the fifth day the patient was allowed to walk about; and on the following day, while in the act of doing so, sudden and fatal syncope intervened. In the last case (36), the patient was allowed to resume his attendance at school, and, " three weeks and four days from the accident, he was taken with a sudden and fatal syncope"; while in the second and third cases (20 and 34), the patients both expired in the act of defecation.

The supervention of carditis, pericarditis, or other inflammatory complications of wounds of the heart, must be watched for, and, if possible, anticipated by appropriate treatment. In gun-shot and severe punctured wounds, such as we have here collated, the inflammatory complications frequently arise; and so insidious are they in their progress that the surgeon is, to say the least, occasionally thrown off his guard, until the citadel of life becomes nearly or quite taken. When the collapse and nervous depression which succeeds this class of wounds passes off, not unfrequently symptoms of pericarditis supervenes. In some cases the symptoms may not become fully manifest until the second day, as in Case 4, or the ninth day, as in Case 9. But whether they arise sooner or later, they should, if possible, be anticipated, and the surgeon will do well to institute daily examinations, in order that he may detect the first beginning of the disease. The physical signs by which we may detect the early rise of this affection are friction sounds with special precordial dullness, and twisting upward of the apex of the heart. The friction sound, when fully developed, may be considered pathognomonic. In a case of traumatic pericarditis supervening on a gun-shot wound, Dr. Stokes discovered a peculiar friction sound, which can be best described by stating that it consisted in the existence of many distinct points of intense friction sound, each of which, though extremely circumscribed, conveyed the impression of a resisting or cartilaginous deposit. These signs continued for several days, during which the friction phenomena subsided at certain points and appeared at others. There was no constitutional suffering, and but little, if any, local distress. The patient recovered.* The treatment best calculated to ward off the danger of pericardial inflammation, there is no doubt consists in judicious blood-letting, followed, or perhaps best preceded, by well-directed efforts toward a speedy mercurialization of the system. In the event of effusion following pericarditis, blisters must be resorted to, and mild mercurials must be continued. Should medical treatment prove of no avail in removing the fluid, and especially should threatened suffocation exist, surgical treatment must be called in, and the operation of tapping the pericardium performed. This course, suggested by Senac and practiced by Delault, and more recently by Schuh, will be found advisable. In two cases given by Dr. Kainwagen, immediate relief followed the operation, and in one a permanent cure; in this case three and a half pints of fluid were drawn off.

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* *The Diseases of the Heart and Aorta.* By WILLIAM STOKES, M. D. Dublin, 1854. p. 81.

Prognosis.—In regard to the prognosis of wounds of the heart, we may safely conclude, with Mr. Baird, that from the cases here reported and similar recorded facts, in a general manner, that *wounds of the heart, although always dangerous, are not all necessarily mortal; that in some cases, hopes of recovery may be entertained—the more so if the wound has not penetrated deeply, or if the symptoms of consecutive inflammation are of a moderate character.*

Forensic Relations.—The legal relations of the practitioner in the management of wounds of the heart are important, more so perhaps than in most other wounds, from the fact of the professional as well as popular belief in their necessary and general immediate fatality. The fact of the existence of indubitable instances of recovery from such wounds, imposes upon the surgeon, however, a severe responsibility; while the possibility that the patient may die as a consequence of inflammation, uncontrolled, and perhaps unsuspected, tends to augment it still more. In order to avert such responsibility, the treatment of wounds of the heart must be judicious. In other words, there must be no improper, neither want of proper, treatment. For if the treatment instituted be faulty—if the wound in the heart be cicatrized as in Case 34—and the patient die of the consequences of another difficulty improperly treated, an issue may be set up extremely unfavorable to the professional character of the surgeon. In a case cited by Dr. Neurohr,* we have the point of improper treatment strongly illustrated. A man received a wound one inch long and three lines broad, which went through the parieties of the chest, to the left of the sternum, through the cartilaginous portion of the fourth ribs, the pleura, a part of the left lung, the pericardium, and inflicted a wound in the right ventricle one inch long and a line in depth: the patient lived ten days. During his sickness he had difficult and anxious breathing, pain, stitches in the breast, small frequent pulse, strong fever, and great restlessness. The treatment throughout was faulty; no bleeding or antiphlogistic remedies, but on the contrary, instead of these, in three days from receiving the wound, nourishing diet, bark internally, cataplasms of wine and aromatic herbs were resorted to. The patient, as before stated, died on the tenth day, experiencing great restlessness, quiet delirium, great dyspnœa, intermitting pulse. The patient died of paralysis of the lungs and heart, from effusion into the pericardium. The wound of the heart was held to be not necessarily fatal, and the treatment vicious and faulty.

The following case contrasts strongly with the foregoing. A soldier wounded himself with a knife in the left side, at the union of the fifth and sixth ribs with their cartilages. On examination after dilatation of the wound, the lung and pericardium were found to be wounded, and there existed a superficial wound of the apex of the heart six lines long. It could be perceived, by the finger, how by the systolic action the heart lengthened, and touched with its somewhat outward bowed apex the sixth rib, and by the distole it shortened itself. The motions of the heart appeared to resemble the screw-like movements of a spiral spring. While the heart contracted itself, the arteries dilated themselves; for when the point of the heart touched the finger the radialis dilated itself. When after four or five beats the pulse intermitted, so was the systole of the heart labored and trembling. The treatment instituted in this case was free bleeding, rest, and a strictly antiphlogistic course. The patient permanently recovered.*

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* *Judicial Inquiry upon a Person who died after ten Days, from a Wound of the Heart.* By G. A. Neurohr, in *Henkes Zeitschrift,* 1825.

Of this fact—in regard to the legal bearings of this class of wounds—there can be no doubt, that, when death follows from inflammation of the heart or its coverings, when, in spite of the best treatment, the inflammation complicating such wounds proceeds uncontrollably and has a fatal termination, *the wound is* to be pronounced *as necessarily* fatal. But dissection must then show the results of inflammation and the absence of other quicker operating cases. But on the other hand, if inflammation arise in the lungs or pericardium, after heart wounds, and if death follow after manifestly deficient or improper treatment, the wound of the pericardium and heart, having perfectly cicatrized, and no other fatal cause of such result become manifest on dissection, *the wound should not be held as absolutely fatal*. And, in the language of a writer in the *Medicinische Zeitung* "they can only be pronounced as necessarily fatal when, notwithstanding the most proper treatment, violent inflammation comes on, which terminates in death. In individuals who are much predisposed to inflammation, in cases where a foreign body remains, etc., but even, also, in the last case, where foreign bodies remain, healing is yet possible, as individual examples have shown. But those wounds ought not to be pronounced as necessarily fatal, where the treatment was manifestly bad, when, not the inflammation of the heart, but other circumstances have been the cause of death."

Under what circumstances, then, ought we to declare a wound of the heart to be fatal in a legal point of view? On the solution of this question as regards wounds in general much has been written, and definite conclusions have been, in a meas-

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*OLLENROTH in *Medical Times*, vol. vii., p. 77, from SHMUCKER'S *Vermischet Chir. Scriften*, Bd. 11.

ure, arrived at. It is plain to be seen that all wounds of the heart in which death immediately follows must be pronounced as fatal, whether death be caused by hemorrhage, or from pressure upon the heart, or from shock to the nervous system. But it is in those cases where death has followed later, say after several days, that we have to inquire carefully into the mode in which it occurred, in order to render definite our opinion of the exact agent by which the fatal result has been produced.

If death follow severe and exhausting external or internal secondary hemorrhage the wound is to be pronounced fatal; this result may come on as a consequence of the removal of the coagulum which served as a plug to the wound. But, in such a case, if the extravasation of blood be internal, dissection must show the fact.

If death occur from suffocation, as evinced by dyspnœa and great difficulty of respiration, and dissection show a healed heart-wound, but the chest filled with extravasated blood, and paracentesis has not been attempted, then we cannot declare the wound to have been necessarily fatal.

If death occur from extensive pericarditis followed by effusion, and dissection show a healed heart-wound, as also a healed wound of the pericardium, and little if any attempt has been made to arrest the pericarditis, or to remove the effusion, then, we ought not to pronounce such a wound to be fatal: more especially if the patient be one possessed of a vigorous constitution, and capable of bearing efficient bleeding, and a thorough antiphlogistic treatment.

Again, if death occur from inflammatory complications, other than those of the heart and its investments, and if such complications be those that in a majority of instances are curable, and dissection show that these complications were in a good degree a probable cause of death, the wound ought not to be held as fatal.

In case of the supervention of a disease, which of itself may be mortal, upon wound of the heart, and dissection show a healed heart-wound—such wound evidently must not be held fatal. Case 34 clearly illustrates this point. The patient received a bayonet wound which penetrated into the cavity of the right ventricle. Faintness occurred and life appears to have been preserved by it. The patient, after his injury, remained concealed under an old stair-case for five days, without nourishment, and exposed to severe cold. He was admitted into hospital and died, on the fifteenth day after the receipt of injury, from mortification of the lower extremities consequent on the exposure. On dissection, the wound of the heart, pericardium, and lungs were found completely cicatrized, and there existed no signs of effusion in any of the surrounding parts. Most assuredly it would be wrong to hold this wound of the heart as fatal.

And, finally, if the treatment of a supervening disease be proved to be manifestly faulty, although the wound in the heart be not entirely healed, it must not be held that the wound is fatal.

The following table it will be seen comprises forty cases of severe wounds of the heart, and two in which foreign bodies of considerable size were lodged in the cavity of a ventricle, without wound of heart, all of which are so fully reported that we have not hesitated to regard them as authentic, and therefore to admit them into it. We do not claim that it contains all the recently-reported cases of wound of the heart, neither all the reported cases of recovery from such wounds; for Fordéré, Consbruch, Meglin, Sanson and others have cited cases where penetrating wounds of the heart have been afterward found cicatrized; but the mere allusion to such cases, in the absence of all the attendant facts, has led us to exclude them from the present collection. The case of M. Latour, we believe to be (Case 2) the one reported by M. Fournier.

SEX.	AGE.	NATURE OF INJURY.	PRIMARY SYMPTOMS AND PROGRESS.	RESULT.	POST MORTEM APPEARANCES.	REFERENCES.
M. No. 1	15	Gunshot-wound left side of sternum.	Pulse scarcely perceptible; great difficulty of respiration. On the second day pulse weak and intermittent—syncope, followed by re-action and fever. Emaciated.	Died 67 days after receipt of injury, with hectic symptoms.	Three shot loose in cavity of right ventricle; two in right auricle; cicatrices of wound on surface of heart plainly to be seen; pericardial adhesions Left lung dense, hard, and not more than ½ natural size.	L. Randal, M. D. Western Journ. Med. and Phys. Sci., Vol. 2., p. 329.
M. No. 2		Gunshot-wound.	Severe hæmorrhage, "and was taken up for dead." Three months after suffered from frequent palpitations, which nearly disappeared after three years.	Died 6 years after of another disease.	Deep cicatrices on chest. Ball found lodged in the right ventricle, near its tip, and resting on the septum medium.	M. Fournier. Cas Rares in Dictionnaire des Sci. Medicales.
M. No. 3	41	Gunshot-wound to right of sternum, between 3d and 4th ribs.	Pale and pulseless; breathing short and frequent. 36 hours after accident slight re-action came on.	Died 68 hours after receipt of injury.	Right pleural cavity and pericardium filled with blood. Wound in right auricle, near the base of auricular appendage.	Dr. Dawson. Western Lancet, Cincinnati, Vol. 12., p. 14.
M. No. 4		Gunshot-wound to left of sternum between 6th and 7th ribs.	Vomiting, with cold surface. Scarcely perceptible. Re-action became established 24 hours after injury.	Died 4 days after receipt of wound.	General pericarditis. Wound in right ventricle; also in tricuspid valve. Ball was found in right iliac portion of vena cava ascendens.	R. P. Simmons, M. D. Western Journ. of Med. and Phys. Sci., Vol. 9., p. 382.
M. No. 5	25	Gunshot-wound to left of sternum, between 2d and 3d ribs.	Syncope; no other primary symptoms reported. 11 days had colliquative diarrhœa, labored respiration, and great restlessness.	Died 14 days after receipt of injury.	Left thorax contained two quarts of sero bloody fluid; pericardium thickened, and contained eight ounces of sero bloody fluid. Wound penetrating right ventricle one inch in length, near origin of pulmonary artery. Ball in cavity of pericardium.	J. H. Fuge. Edinburgh Med. and Surg. Journ., Vol. 14., p. 129.
F. No. 6		Pistolshot-wound left of sternum, between 5th and 6th ribs.	Syncope, collapse: pulse fluttering. Re-action about 12 hours after. Third day pleuro-pneumonia set in.	Died 14 days after injury.	Left pleural cavity filled with bloody serum; left lung hepatized. Ball found lodged in left ventricle, near apex, just beneath endo-cardial membrane.	Dr. R. C. Hopkins. Ohio Med. and Surg. Journ., Vol. 5., p. 210. 1853.
M. No. 7		Gunshot-wound.	Symptoms not reported.	Died 13 days after receipt of injury.	Ball entered right ventricle at root of pulmonary artery, passed through portion of tricuspid valve, and fell into left auricle.	Mr. Fuge. Medical Times, Vol. 10., p. 358.
M. No. 8	30	Pistol-shot to right of sternum, towards left side.	Primary symptoms not reported. Two hours after had pain in chest, sickness of stomach, and "respiration constricted."	Dies 44 hours after receipt of injury.	Both sides thorax contained each two quarts of blood—eight ounces in pericardium. Right ventricle and pericardium perforated by a ball, which was found in cavity of pericardium.	Editor of Edinburgh Med. and Surg. Journ., Vol. 14. p. 131.
M. No. 9	33	Pistol-shot to left of sternum, between 5th and 6th ribs.	Raised from the floor, but soon fell senseless; pulse scarcely perceptible; difficult respiration. Four hours after re-action set in. Two days after "heart beat with healthy precision." On ninth day signs of pericarditis.	Died 11 days after receipt of wound.	Lungs and pleura healthy; pericardium distended with bloody serum; heart and pericardium covered with fibrinous exudation. Ball encysted and imbedded to the depth of quarter inch in septum, midway between apex and base of ventricles.	J. M. Carnochan, M. D., American Medical Monthly, Vol. 3., p. 272.
M. No. 10	31	Gunshot-wound near left nipple.	Fell instantly in syncope; partially revived, pulse feeble, dyspnœa; four hours after re-action took place. On 42d day was attacked with erysipelas of left leg, from which he died.	Died 47 days after receipt of injury from erysipelas.	Pericardium contained five ounces of reddish sanies; a piece of wood, "as large as a full sized writing quill," transfixed left ventricle and septum, and projected into cavity of right ventricle; endocarditis and softening of heart near apex.	Prof. Malle. Clinique de l'Hôpital d'Instruction de Strasbourg, Paris, 1838; and Brit. and For. Med. Rev., Vol. 10., p. 46.

M. 50 No. 11	Knife-wound in left side.	Primary symptoms not reported. For several months it was thought wound would prove mortal; recovered, but subject to palpitations.	Died 9 years after of intemperance.	Opening in pericardium opposite cicatrix in thoracic parieties; cicatrix in right ventricle extending through its entire thickness.	M. Velpean. Treatise on Surg. Anatomy. Translated by J. W. Sterling. M. D., New-York 1830, Vol. 1., p. 427.
M. 40 No. 12	Kitchen-knife to left of sternum, between 5th and 6th ribs.	Air escaped from wound; great collapse; heart's action scarcely perceptible. Next day re-action came on; a week after dyspnea, palpitations and extreme anxiety.	Died 29 days after committing injuries.	Pleura contained two pints bloody serum; pericardial adhesion; wound of anterior surface of right ventricle five lines in length; endo-carditis.	Medico Chirurg. Rev., Vol. 22., p. 453, from Journal Hebdomadare, No. 97.
M. No. 13	Knife-wound.	Syncope; pulse feeble, and at times intermittent; breathing difficult. After a few days improved. On tenth day suddenly fainted, and expired.	Died 10 days after receipt of wound.	Wound in left ventricle penetrating to septum; wound filled with a coagulum.	Dr. Fris. American Journ. of Med. Sci., from Filiatre Sebezio di Napoli. May 1834.
M. 26 No. 14	Knife-wound below mamma.	Countenance pale, followed by several fainting fits; pulse weak and intermittent. On the 10th day "fell into a faint, and expired."	Died on the 10th day after receipt of injury.	Cavity of thorax filled with blood; wound in left ventricle extending through to opposite wall; clot in wound preventing flow of blood.	Revue Médicale for July 1834. Dublin Journ., Vol. 6, p. 320
M. 16 No. 15	Knife-wound to left of sternum. between 4th and 5th ribs.	Walked about for ten minutes, then vomited; pulse small and frequent. Soon became insensible; signs of extravasation of blood into chest.	Died 6 days after receipt of injury.	Chest contained twenty-four ounces of blood; wound in pericardium and left ventricle; pus in pericardium, and clot in wound of ventricle.	M. Boyer. Boston Med. and Surg. Jour., Vol. 2, p. 209, from Journ. Hebdomadare.
M. 21 No. 16	Knife-wound.	Ran up stairs; syncope; pulseless; feeble inspiration.	Died in ½ hour.	Pericardium contained four ounces of blood; wound in same one inch in length. Wound through right ventricle one inch; from apex half inch in length.	Dr. H. G. Clark. American Jour. of Med. Sci., N. S., Vol. 26., p. 85.
M. 21 No. 17	Knife-wound in left precordial region.	Syncope; complete collapse; no radial or cardial pulsation. Moderate re-action followed in six hours. Five days after was walking about. Sudden and fatal syncope.	Died 6 days after receipt of injury.	Wound in pericardium and right and left ventricle; cicatrization of wound in pericardium and right ventricle perfect—left open, and in cavity of pericardium twenty-four ounces of blood.	Dr. Trugien. American Journ. of Med. Sci., N. S., Vol. 20., p. 99.
F. 32 No. 18	Knife-wound in region of heart, between 4th and 5th ribs.	Fell immediately to the ground unconscious; complete collapse; respiration difficult; pulse tremulous intermittent. On 46th day declared cured.	Died 66 days after receipt of inj., while in the act of defecating.	Left thoracic cavity contained eight ounces of a yellow fluid; pericardium inflamed and thickened, and contained two pounds fluid blood; heart atrophied; in left ventricle a conical wound, "large enough to admit easily an ordinary sized pair of pincers."	M. Marini. Gazette Médicale de Paris, and Provincial Med. and Surg. Journ. for 1844, p. 209.
M. 38 No. 19	Knife-wound in left side.	"Instantly fell and never spoke;" scarcely any blood discharged from the wound.	Died immediately on receipt of injury.	Wound of abdomen diaphragm, pericardium and right ventricle of heart, one inch in length; pericardium full of uncoagulated blood.	Wm. Wallace, M. D. The Lancet, (London,) Vol. 2., 1833–4, p. 140.
M. 20 No. 20	Knife-wound to right of sternum, between 3d and 4th ribs.	Profuse hæmorrhage; fainting, followed by great restlessness. Fourth day sudden collapse; respiration difficult; peculiar interrupted metallic tinkling heard over heart.	Died 7 days after injury.	Wound in right auricle, at its junction with ventricle, two lines in diameter. Internal mammary artery divided, and right side of chest filled with dark fluid blood,—three pounds, at least.	Dr. Steifensand. British and Foreign Med. Rev., Vol. 8., p. 255; and Med. Times, V. 6., p. 389, from Casper's Wochenschrift, No. 15. 1838.
M. No. 21	Knife-wound to left of sternum, between 4th and 5th ribs.	Staggered a few steps and fainted; re-action came on after a short time.	Died 4 days after receipt of injury.	Left cavity of chest completely filled with bloody serum; pleura inflamed; intercostal artery divided; heart completely transfixed. Wound half an inch in length.	Dr. W. F. Alexander. Amer. Journ. of Med. Sci., N. S., Vol. 13., p. 245.

M. 30 No. 22	Six wounds in precordial region with sharpened file	Air escaped from wound; respiration short and weak; pulse small and irregular.	Died 3 days after injury.	Three or four pounds of blood effused in pleural cavity from wounded intercostal artery; left ventricle contained three wounds penetrating its cavity; inner openings filled with clot.	M. Dupuytren. Lécons Orales de Clinique Chirurgicale. Paris, 1823.
M. 28 No. 23	Knife-wound to left of sternum, between 5th and 6th ribs.	Fell immediately on being wounded, and lost all power of movement. No other particulars of symptoms given.	Died 5 minutes after receipt of wound.	Pericardium wounded and distended, with coagulated blood; anterior wall of left ventricle perforated near apex of heart.	Wm. Wallace, M. D. The Lancet, (London,) Vol. 2, 1833-4, p. 141.
M. No. 24	Knife-wound to left of sternum, between 6th and 7th ribs.	Profuse hæmorrhage; walked 110 feet, and fell in a state of syncope; pupils insensible; respiration slow: pulse imperceptible.—Very slight re-action.	Died 4 hours after injury.	Pericardium contained twenty-four ounces of fluid blood. Wound through right ventricle six lines in length.	J. Drew, M. B., The Lancet, (London,) Vol. 2, p. 691. 1849.
M. No. 25	Sword-wound to right of sternum, between 5th and 6th ribs.	Walked 60 paces. Syncope; re-action soon followed. Third day, dilated wound and profuse hæmorrhage followed. Imprudent dilatation of wound increased danger.	Died on 10th day after receipt of injury.	Right thorax filled with blood. Right ventricle of heart wounded above tricuspid valve; pericardium distended with blood.	Diemerbrœck, Anatomie of Human Body, trans. by W. Salmon, Lond. 1694.
M. No. 26	Sword-wound.	Syncope; great dyspnœa. Re-action feeble.	Died on 5th day after injury.	Cavity of chest filled with blood. Wound in right ventricle, extending through septum medium into cavity of left ventricle; wounds filled with clot.	M. Paviaul. Nouv. Recueil de Observ. en Chirurg., Paris 1792. Month Journ., 1843, p. 284.
M. No. 27	Knife-wound to left of sternum, between 5th and 6th ribs.	Continued fighting, and after running 150 yards, fell down from exhaustion and expired.	Died ½ hour after receipt of wounds.	Two penetrating wounds of chest; left pleura contained three pints of blood. Knife penetrated pericardium and left ventricle at lower part of middle third. Wound transverse, and half inch in extent.	W. Baird, Esq. London and Edinburgh Monthly Journ. of Med. Sci., Vol. 3. 1843.
M. 34 No. 28	Knife-wound to left of sternum, between 4th and 5th ribs.	Face pale and anxious; pulse weak but regular: respiration regular; re-action came on 24 hours after.	Died on 7th day after injury of cerebral disease.	Cavity of chest contained four ounces of blood from wounded intercostal artery. Wound in middle of left ventricle three and a-half lines, extending into its cavity.	M. Dupuytren. Lécons Orales de Clinique Chirurgicale, Paris 1823.
M. 48 No. 29	Knife-wound from a paper-scraper of ebony, left of sternum, between 4th and 5th ribs.	Patient insane. Syncope, with partial collapse: re-action soon followed. A high degree of thoracic inflammation set in.	Died 4 days after injuries.	Left pleural cavity contained thirty-two ounces of black blood, pericardium a small quantity. Heart, right ventricle, traversed; and still contained "a paper scraper of ebony." Tricuspid valve and auricle also wounded.	Dr. Constantin. Calcutta Quarterly Journal of Med. and Physical Society, No. 5. Lancet, Vol. 2. 1838-9.
M. 34 No. 30	Stylet-wound in left side.	Lunatic. When seen two days after, pulse small and intermittent: breathing laborious; undulating sound heard below wound, compared to blood passing through varicose aneurism.	Died on 20th day after inflicting injury.	Pericardium inflamed, and contained twelve ounces of reddish sanies; stylet found, completely transfixing left ventricle, and extending some lines into cavity of right.	M. Ferus. Medico Chirurg. Rev., Vol. 10, from Rev. Med.
M. 32 No. 31	Bayonet-wound.	Severe pain in præcordia, dyspnœa, intense anxiety, heart irregular, a bruit heard like blood passing from an artery into a vein.	Died 16½ hours after injury.	Pericardium opened three or four lines in extent; a large clot in pericardium; wound two or three lines in extent in right ventricle, at summit of heart; bloody fluid in pleural cavity.	M. Jobert, Arch. Gen. Sept., 1839, p. 209.

M. 23 No. 32	Short-sword - wound to left of sternum.	Four hours after, extreme prostration; respiration short and painful; action of heart tumultuous; blood flowed from wound in respiration; bruit like varicose aneurism. 2d day pleurisy; 3d day pulse irregular.	Died on 4th day after injury.	Much fluid blood in abdominal and pelvic cavities; wound of diaphragm, closed by clot, pericardium filled with serosity and clots, two wounds, one before and the other behind; heart wounded at apex & enveloped with false membranes, traversing the rt. ventricle & severing the columnæ carnæ.	M. Jobert, Arch. Gen. Sept., 1839, p. 209.
M. 23 No. 33	Short-sword - wound to left of sternum.	Syncope; severe hemorrhage from wound; pulse small and irregular, respiration short and quick, bruit as before; 2d day pulse small, respi. painful & short, signs of pleuritis; 3d day worse; 9th respi. suffocation.	Died 9th day after injury.	Six wounds, penetrating the liver, stomach, &c; left pleural cavity filled with clots and sero-sanguinolent fluid, fibrinous exudation on lung; wound traversing rt. vent.; opening in pericar. closed by a clot which adheres also to wound of heart.	M. Jobert, Arch. Gen. Sept., 1839, p. 209.
M. No. 34	Bayonet-wound.	Frequent fainting—was exposed for five days under an old stair-case. Mortification of lower extremities followed.	Died 14 days after receipt of wound.	Cicatrix of wound observed in lung, pericardium and right ventricle of heart. No effusion in either cavities.	M. Chastenet. Journal de Med. Militaire, Vol. 2.
M. No. 35	Bayonet-wound.	Syncope; pulse scarcely perceptible; re-action came on in a few hours. Expired in the act of defecating.	Died 49 hours after being injured.	Pleura inflamed, and contained coagulable lymph and two quarts of blood. Pericardium nearly filled with blood; wound three-fourths of an inch into left ventricle, and one of the columnæ carnæ of the mitral valves divided.	J. Featherstone, Esq. Medico Chirurg. Trans., Vol. 2, p. 58.
M. No. 36	Penknife - wound to left of sternum, between 7th and 8th ribs.	Syncope instantly followed; pulse feeble but regular; repeated attacks of syncope, in one of which he suddenly expired.	Died 25 days after injury.	Pericardium contained eleven ounces of blood and serum; cicatrix on pericardium; anterior coronary artery divided. Hæmorrhage supposed to have taken place at time of fatal syncope.	Dr. G. W. Richards. Boston Med. and Surg. Journal, Vol. 35, p. 336.
M. No. 37	Bayonet-wound midway between crest of ilium and false ribs.	Withdrew instrument himself, then walked 25 feet and fainted; respiration slow, but by degrees became quick and laborious.	Died 10 hours after receipt of injury.	Bayonet pierced peritoneum, colon, stomach, left lobe of liver, diaphragm, pericardium, right ventricle of heart in two places and lungs. Abdomen and pericardium contained a little bloody serum, left pleura two quarts of blood.	Dr. Babington. Med. Records and Researches. London, 1798.
M. 28 No. 38	Wound from a quadrangular awl to left of sternum, bet. 6th and 7th ribs.	At first felt nothing unusual, walked across street; one hour after partial collapse; pulse frequent and feeble. Suddenly expired.	Died 16 hours after receipt of wound.	Pericardium perforated, and contained more than a pound of dark blood. Wound in left ventricle of heart, near apex.	Dr. Landsberg. Month. Journ. of Med. Sci., Vol. 5. N. S. p. 261, from Schmidt's Jahrbücher, 1851.
M. 21 No. 39	Stab in left mammary region.	On sixth day presented evidences of pleurisy with effusion. Died with cerebral symptoms.	Died on 12th day after injury.	Left pleural cavity and pericardium filled with blood. Pericardium perforated, also right ventricle and septum into cavity of left ventricle.	Dr. Bowen. New York Journ. of Med., N. S., Vol. 3. p. 201.
M. 40 No. 40	Punctured - wounds with a saddler's needle.	Pulse presented no anomalies; a semi-apoplectic state came on, and he sank with marked cerebral symptoms.	Died 25 days after injuries.	Pleuritic adhesions; six wounds of heart penetrating the right ventricle; one into the interventricular septum. Heart pale, and easily broken up.	M. Dupuytren. Leçons Orales de Clinique Chirurgicale. Paris, 1823.
M. 10 No. 41	Gunshot-wound left side between 3d and 4th ribs.	Walked 40 yards; felt faint several hours after re-action came on. After 14 days had frequent rigors, followed by faintness and quick pulse.	Died 37 days after injury.	Chest healthy; right ventricle contained a round stick, $3 \times \frac{3}{8}$ inches; one end resting upon apex, and the other upon auriculo-ventricular valve, which was partially ruptured	T. Davis, Esq. Provincial Med. and Surg. Transactions, Vol. 2, p. 357.
M. No. 42	Gunshot - wound in left side beneath axilla.	Respiratory murmur slight; emphysema; dyspnœa recurring, from time to time, with increasing severity. Action of heart weak. Hectic, followed by rapid emaciation.	Died 10 weeks after receipt of injury.	Left cavity of chest contained a cyst, holding a pint of pus. Musket ball in cavity of left ventricle, firmly impacted beneath cordæ tendineæ and columnæ carneæ.	Indian Annals of Medical Sci., No. 1. 1853.

Portions of Heart most liable to Wounds.—All portions of the heart are not equally liable to wounds. In the forty-two cases here tabulated, the right ventricle was found the seat of the wound in twenty-one cases; the left ventricle in twelve; both ventricles two; right auricle two, and the septum in two. In fifty-four cases examined by M. Ollivier,* the right ventricle was found the seat of the wound in twenty-nine; the left ventricle in twelve; both ventricles in nine; the right auricle in three; and the left auricle in one. From this it will be seen that the right ventricle of the heart is as frequently (if not more so) the subject of wounds as all the other portions of this viscus put together. The anatomical relations of this organ clearly explain this. The anterior surface of the heart is principally formed by the right ventricle, it being situated mostly in front of the left ventricle, and thus is more exposed to wounds.

Comparative Mortality.—Upon this point our table furnishes four cases of positive recovery, in all of which the right ventricle was the part injured. On comparing the parts wounded with each other in the fatal cases, it is found that the average duration of life after fatal wounds is much greater if the left ventricle be the part injured. May the greater thickness of its parieties and the disposition of its fibers contribute to this result?

Duration of Life in Parts Wounded.—The statistics upon this point show the following results: Right ventricle, maximum 29 days, minimum died immediately,—average 9 days; left ventricle, maximum 66 days, minimum 5 minutes,—average 13½ days; right auricle, maximum 7 days, minimum 2½ days,—average 4¾ days. In 2 cases in which both ventricles were wounded, maximum 6 days, minimum 4 days,—average 5 days.

Conclusions.—The following conclusions may be deduced from the facts observed in the cases of wounds of the heart here collated:

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* *Dictionnaire de Medécine*, tome viii. Paris, 1834.

That wounds of the heart are not in general immediately fatal.

That recovery, after severe gun-shot, incised and punctured wounds of the heart is possible, and that, too, amounting almost to a probability, provided a careful and judicious treatment is faithfully carried out.

That the presence of a leaden ball imbedded in the walls of a ventricle of the heart does not preclude the possibility of recovery, and is not incompatible with the continuance of life for a number of years.

That it is possible for an incised wound of the heart to heal by first intention, and the patient afterward be able to continue a laborious occupation for years after with no severe manifestations of heart disease.

That the presence of a foreign body, other than a leaden ball, of considerable size in the walls or cavities of the heart, does not necessarily preclude the possibility of a continuance of life for a number of days.

That the *prognosis* of all wounds of the heart is unfavorable, but that in some cases hopes of recovery may be entertained, provided the patient's constitution be good, and efficient treatment be early resorted to.

That the proper treatment of wounds of the heart is that which is adapted to like wounds of the chest in general; and that the inflammatory complications must be met with the same remedies as are adapted to the management of the disease when arising from idiopathic causes.

That all parts of the heart are not equally liable to wounds, the right ventricle being the one most frequently injured.

That the comparative mortality of heart wounds shows that the average duration of life is greater if the left ventricle be the seat of injury. This proposition is opposed to the received opinion of almost all writers on this subject.

That the medico-legal relations of wounds of the heart are important, and should command the surgeon's careful attention, in order that he may not jeopard the life of his patient by timidity on the one hand or temerity on the other; and thereby subject himself to the inconvenience of the raising of a false issue on the management of the case before a legal tribunal. This issue was actually set up in the case reported by Dr. Neurohr, which has previously been cited by us.

Literature of Wounds of the Heart.—Aside from the reports of numerous isolated cases which are scattered through the periodical literature of medicine, and many treatises on surgery and medical jurisprudence; the following are among the principal contributions which have been put forth for the elucidation of this interesting if not important species of wounds.

Some Observations on Wounds of the Heart. By JOHN REDMAN COX, M. D. *American Journal of the Medical Sciences.* Vol. iv., p. 307. Philadelphia, 1829.

An Essay on Wounds of the Heart. By CATHCART LEES, A. B. *Dublin Journal of Medical Science.* Vol. xi., p. 169. Dublin, 1837.

Clinical Lecture on Wounds of the Heart. Delivered at the Jervis Street Hospital, Dublin. By WILLIAM WALLACE, M. D. *The Lancet* (London) for 1833–4. Vol. ii., p. 140.

The Commentaries upon the Aphorisms of Boerhaave. By VAN SWIETEN. 18 vols, 8vo., London, 1759. Vol. ii., p. 77.

Upon Heart Wounds and Extravasation of Blood into the Cavity of the Chest. By DR. STEIFANSAND. *Casper's Wochenschrift,* No. 15. 1838.

Leçons Orales de Clinique Chirurgicale, etc. By M. DUPUYTREN. 4 tomes, 8vo. Paris, 1832–4. *Lecture on Wounds of the Heart,* translated in *The Lancet,* (London,) 1834–5. Vol. i., p. 767.

Wounds of the Heart. By M. OLLIVIER. *Dictionnaire de Medécine.* 30 tomes, 8vo. 1832 to 1846.

Reflections on Penetrating Wounds of the Heart. By J. A. JOBERT (de Lamballe) *Archives Géneral de Medécine* for Sept. 1839.

Upon Wounds of the Heart, especially in their Forensic Relation. Medical Times, (London). Vols. vi. and vii., 1842–3, from *Medicinische Zeitung.*

Case of Wound of the Left Ventricle of the Heart, with General Remarks on Wounds of that Organ. By WILLIAM BAIRD, Esq. *The London and Edinburgh Monthly Journal of Medical Science.* Vol. iii., p. 275. 1843.

On Wounds and Injuries of the Chest. By G. J. GUTHRIE, F. R. S. London, royal 8vo. 1848.

Elements of Medical Jurisprudence. By T. R. BECK, M. D., and J. B. BECK, M. D. 2 vols., 8vo. Albany, 1851. Vol. ii., p. 329. Article *Wounds.*

Art. VIII.—*Protracted Valvular Disease of the Heart.*[*] By John W. Corson, M. D., Physician to the N. Y. Dispensary; late Physician to Brooklyn City Hospital.

We cling strangely to threatened life. The wounded man crawling from slaughtered heaps on a battle-field, blesses the surgeon who first tells him he will live. So, too, the sufferer with a crazed faltering heart,—with disease which he knows to kill so many,—must brighten at the professional announcement that he may live quietly for long years. Skill in prognosis then is to be highly prized, and faithfully sought. Not one of us who has ever met the gaze of a sunken eye, reading our inmost soul; or with a whisper started tears of agony or joy from a trembling group around;—or felt the affairs of two worlds interested in our verdict, can ever undervalue this gift of medical prophecy. Nor can we forget the sting of mistaken promise. It is no light thing, to be able to tell a human being whether he will live or die. Yet in all this, there is nothing supernatural. We reason from observing a multitude of cases,. and from rules thus formed, some of them as old as the Aphorisms of Hippocrates. Cardiac disease, in its fullness, is so recent a discovery, and we have had so much to learn in its symptoms and pathology, that we have done little in its prognosis. We are naturally apprehensive. We know that sometimes a patient will groan with rheumatism awhile, and then, all but the palpitating heart will be well for a year or two, when it stops like a broken clock, and he faints and falls stone dead; or it struggles wearily for life for months, and then chokes him some day with pulmonary effusion; or it deluges his brain with apoplexy; or makes him hobble more slowly to the grave with palsy; or he grows sallow with the prefix or addition of Bright's kidney, or a swollen liver, and bloats and dies by inches with dropsy; or, strangely enough, with a heart puffing and thumping like a small engine, he keeps his rosy cheeks and lives on tranquilly for many years, to the disappointment of desponding physicians, and expectant heirs, who fancy a man with disease of the heart ought to die soon. Why are these differences? Which valves or chambers can best be spoiled? Do age, sex, labor, causes or complications, influence duration? How long can crippled hearts last? To increase the chances for life, when must we paralyze an active patient, and rob him perhaps of the calling or profession of his enthusiastic choice and sole dependence? If lesions of one valve or cavity differ from others in danger, what are their exact signs? Granting that remedies shorten or lengthen the disease, which are best? After the only sure way—the exact numerical system of that great medical reformer, Louis, we propose in this paper, so far as we are able, to investigate these questions by the relation or tabular analysis of original and selected cases of valvular disease of the heart of at least three years' duration. We have included, without exception, all of this class definitively recorded, which were accessible to us either in text-books or journals for the last twenty years. In the illustration of prognosis we suffered the disadvantage of not meeting a single previous table. That indefatigable numerical observer, Valleix, himself confesses a blank here. Though protracted cases are constantly occurring in private practice, the records of them are scarce. They are met principally among quiet comfortable citizens, or as one of the infirmities of tranquil old age, often under the care of those who publish little, and not in the more carefully recorded experience of the exposed and overwrought poor of hospitals and dispensaries. They must also be watched for several years. Besides, the precise character of several symptoms of heart disease necessary to be noted in a full, accurate description, is comparatively a recent discovery. The prognosis of heart affections, as we may infer from the above questions, practically involves also the consideration of diagnosis, complications and treatment. With this frank confession of difficulties we shall make a beginning.

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[*] Read before the Society of Statistical Medicine.

Case I..—*Aortic Valvular Obstruction and Regurgitation, with great Hypertrophy, from Rheumatism;—for Thirteen Years.—Gentle Exertion.—Improvement.*

A weaver, aged 32, stout, muscular, having been pronounced to have had organic heart disease by several physicians, after severe rheumatism two years previous in Philadelphia, consulted me in 1844 for palpitation, asthmatic breathing, and muscular pains which incapacitated him from labor, but did not prevent him from quiet and even lengthened walking.

Condition.—Expression anxious; face rather pale; lips scarlet; *eyes bright and protuberant;* gait cautious; respiration sometimes twenty-four; asthmatic; pulse eighty, full, slightly jerking; chest on baring, *bulged* considerably by the immense heart; impulse strong, heaving; apex reaching five inches from sternal center and one inch left of the nipple; precordial dullness 4 inches; a loud sawing murmur with both sounds of the heart and masking them, heard mainly at the right edge of the sternum above, along the aorta, and also in the carotids; no dropsical effusion; liver natural; digestion moderate and fickle.

For the occasional turns of asthmatic breathing and severe palpitation he was ordered to take an aqueous mixture of the iodide of potassium, tincture of hyoscyamus and digitalis, and to use mild counter-irritation with croton oil; to avoid excess, excitement or great exertion; and only to take medicine, when urgently required. Strange to say, though obliged to consult me occasionally for more than ten years past, while the heart-symptoms have remained unchanged, his general health has slowly but decidedly improved. He has entirely escaped either hemorrhage or dropsy. Only a few weeks since he was seen by one of my pupils in the most approved style promenading Broadway.

We find in this case, an example of the wonderful power of adaptation, which the human frame possesses. Just as when a lung is collapsed and spoiled by chronic pleurisy, the opposite one enlarges and compensates the loss; so in this instance the immense heart crowding the lung, partly made room for itself by bulging the walls outward.

Circulation and respiration gradually accommodated themselves to the new state of things, and in the course of a few years the health of the patient greatly improved. The peculiar bulging and fiery expression of the eye noticed in this, and some other cases, will be made the subject of comment under the head of "symptoms." He had been frequently warned by his physicians of his liability to early and sudden death, and this, or something else, made him look older than he was, so that

> "His hair was gray, but not with years."

Latterly he grew more cheerful, probably from proving them as yet false prophets.

Case II.—*Aortic Valvular Obstruction and Hypertrophy from Rheumatism;—for fifteen Years.—Sudden Death.*

A clergyman, aged sixty-eight, slender, slightly florid in complexion, distinguished as a fervid and eloquent preacher, having suffered acute rheumatism followed by palpitation and uneasiness, thirteen years previous, and having been pronounced to have "disease of the heart" by an eminent Philadelphia physician, consulted me in 1847 for dyspepsy and extreme "nervousness." For the earlier half of the above period he had labored faithfully as a city pastor; but he had latterly retired to the country, and preached only occasionally. For some time his heart had been forgotten in attention to his stomach and nervous system. He had never had hemorrhage or dropsy.

Condition.—Expression anxious; complexion and lips clear, fresh; pulse full moderate; respiration natural; no precordial bulging; apex pointing to four and one half inches left from sternal center; precordial dullness three inches; *impulse but slightly strengthened;* a harsh, rasping, right sternal, aortic murmur with the first sound; tongue clean; appetite fickle.

His family were duly warned, but on account of his extreme sensitiveness and fits of dejection, it was decided not to alarm him about his heart. He was simply ordered vegetable bitters and preparations of iron for a time, with digestible nourishing food; to avoid undue excitement or exertion; with permission, till it might prove injurious, to exercise carefully in the pulpit.

Two years after, he was noticed to preach one Sabbath morning with unusual pathos and earnestness, so as deeply to move his audience. It was his last effort,—the song of the dying swan. A few mornings after, I was called to prescribe a soothing diaphoretic for a little nervousness and febrile excitement, but left him walking about his room. In the afternoon he lay down to rest, and when the servant brought him his usual meal, she found him as in a slumber, lying on the bed quite dead. Permission could be obtained to examine the heart only. It was found with the left ventricle dilated and hypertrophied, but the muscular substance firm and free from fatty degeneration. The aortic valves only were diseased, being thickened with scales of calcareous deposit. Patches of atheromatous matter were scattered over the inner surface of the aorta. A portion of the right subclavian was so ossified and brittle, as to break and come away with the fingers. The heart weighed seventeen ounces.

In this case the enlargement happened so exactly to compensate for the aortic obstruction, that the heart attracted but little attention and was for a long time forgotten. The impulse and pulse were nearly natural. Nature, in repairing the injury, had fortunately just hit the mark. The amount of exertion borne by the patient for years was really surprising.

CASE III.—*Aortic Obstruction and Regurgitation with Hypertrophy from Rheumatism;—for eleven Years.—Fair Exertion.—Health rather Failing.*

A waiter at the Astor House, aged forty-five, stout, bilious-looking, was admitted under my care at the New York Dispensary, March 29th, 1854, complaining of troublesome cough and palpitation. Eleven years previous, after four months' confinement with rheumatism, his heart-symptoms had commenced; and these were aggravated afterward by repeated attacks of intermittent and congestive fever, while residing in Georgetown, Delaware, requiring the free use of mercury and quinine. He had suffered no dropsy or hemorrhage, and though delicate, had generally been able to be active, till recently.

Condition.—Face sallow; pulse sixty-four, natural; dyspnœa; respiration twenty-two; impulse of the heart, strong heaving; apex four and one half inches left from sternal center, and half an inch beyond the nipple; precordial dullness four inches; a rough, rasping murmur with both sounds of the heart, heard mainly at the right sternal edge above the origin of the aorta; the second sound of the heart accented; liver about normal in size; spleen enlarged; digestion feeble; tongue tolerably clean; no edema; mucous rales indicating slight bronchitis. He was ordered a mixture of the iodide of potassium with the tincture of digitalis, hyoscyamus and cinchona in water, with frictions of croton oil and belladona over the heart. After slight improvement, he soon after discontinued attendance.

The accenting, of the second sound, probably depended on the pulmonary congestion connected with chronic bronchitis.

CASE IV.—*Aortic Obstruction and Regurgitation with great Hypertrophy and Dilatation, from Rheumatism;—for eight Years.—Moderate Exertion.—Living.*

A shoemaker, aged twenty-nine, stout, muscular, and fresh-looking, was admitted to the New York Dispensary, March 20th, 1854, with an affection succeeding an attack of acute rheumatism while exposed on police duty in Ireland eight years since,—for which he was treated in Stevens' Hospital, and which was pronounced by Sir Henry Marsh to be "organic disease of the heart." He had been able to work moderately since, at his business, but on any unusual exertion he suffered from dyspnœa and palpitation. He had never had dropsy, but during the whole period since his first illness he had been subject to attacks of hæmoptysis with the discharge of bright arteral blood at intervals, which seemed to relieve cardiac oppression, and, to use his own expression, made him "feel lighter." For two years he had suffered considerable deafness, which he supposed to have been caused by a cold.

Condition.—Face and lips florid, fresh; expression anxious; *eyes* *protuberant*, *bright*, *staring*; gait cautious; some dyspnœa; respiration twenty-four; pulse eighty-six, slightly thrilling, sometimes intermittent; precordial region slightly bulging; dullness of three and a half by five inches; impulse strong, "heaving;" apex pointing by careful measurement *six inches to the left of sternal center*, reaching below sixth rib, and one inch beyond the nipple; a loud rasping murmur heard with both sounds of the heart, mainly along the right side of the sternum opposite the junction of the second rib; much wax in the ear; tympani seen through the speculum, and both perfect; appetite variable.

He remained under treatment for nearly a month. Syringing the wax from the ears did not benefit the hearing. Asthmatic breathing was relieved partly by an aqueous mixture of the iodide of potassium with the tincture of hyoscyamus, and the attacks of pulmonary hemorrhage were moderated by the acetate of lead and opium. At last a very severe attack of bleeding weakened him so much, that at his request he was sent to Bellevue Hospital.

In this instance the deafness and hæmoptysis doubtless depended on congestion arising from the extra propelling force of an overgrown and powerful heart. As a substitute for leeching or cupping, Nature herself relieved local plethora by turns of hemorrhage like the periodical eruption of a volcano. From the extreme elongation of the heart to the left, as manifested by the oval shape of the dull precordial region, it was evident that the hypertrophy was of the left ventricle.

Case V.—*Aortic Regurgitation with Hypertrophy for six Years, probably from Rheumatism—slightly Aggravated.—Free Exertion.*

A cabin-boy, aged seventeen, tall, ruddy, strumous, in passing through New York to his home in the country, consulted me in September last for alleged "disease of the heart." In very early childhood he had been very ill, but he could not then say what had been the disease. Six years since, or at the age of eleven, he was also ill all winter, and kept in doors by some severe sickness, the nature of which he does not remember, in his native city of Rochester, under the care of a Homeopathic physician. He recovered "after all the doctors" had left him,—with unusual palpitation on walking or running fast, and also, to use his expression, with "swelling of the heart." Two years after, he had severe rheumatism all winter, without medical treatment. Three years later, he was confined to his room for two months, under the care of a regular physician, which, with pleurisy of his left side, left the heart stationary. After this he went to New Orleans for his health, and served as cabin-boy on board several steamers with tolerable comfort until, three months since, the palpitation and heart-symptoms increased so much that he left his employment, and entered the Charity Hospital at New Orleans for a fortnight, and was treated for "disease of the heart," with some relief. Shortly after, he left New Orleans and came in the steamer to New York on his way home.

Condition.—Face very florid; *eyes bright and protuberant;* scrofulous enlargement of the glands on the right side of the neck; jar and unusual motion of the heart detected at a little distance through the clothing; pulse eighty-four, rather firm; decided precordial bulging; impulse strong, undulating; dullness three and a half inches; apex one inch to the left of the nipple, reaching below the sixth rib; a loud, rasping, aortic murmur with the second sound heard at the right of the sternum along the arch of the aorta; left ribs retracted slightly; some dullness from former pleurisy; complains of sciatica of the right hip.

It is strongly probable that the two attacks in early childhood, the nature of which he could not remember, were rheumatism. New Orleans, though the dampest place in the world, has yet a warm climate; and hence it exempted him from rheumatism. We believe that the curative influence of a warm climate in rheumatism is not generally appreciated. A friend of ours, a perfect martyr to the disease when a young man, while residing north, procured entire exemption, for years, while in active practice as a physician at Metamoras, in Mexico; and great subsequent mitigation afterward, in a residence in the vicinity of New York.

Case VI.—*Aortic Obstruction with Hypertrophy, from Rheumatism; for three Years.—Free Exertion.—Improving.*

A lad, aged ten years, slight in figure, but active, able to play freely with little inconvenience, having had severe acute rheumatism three years previous in Connecticut, and suffering, in the opinion of his physician, with "disease of the heart" immediately afterward, without subsequent dropsy or hemorrhage,—consulted me in autumn last.

Condition.—Complexion naturally brunette, inclined to sallow, but clear, and with no lividity; lips, fresh looking; pulse, eighty-five, rather firm; no precordial bulging; impulse slightly strengthened; dullness a trifle enlarged; apex points even with the left nipple; a *very harsh loud rasping murmur with the first sound*, most distinct over the origin of the aorta, at the right edge of the sternum; breathing slightly asthmatic; occasional turns of palpitation. Latterly, there has been a decided improvement. The hypertrophy here was moderate, and the derangement to health very slight, and yet the murmur was extremely loud, so as to be heard several inches from the chest. A vigorous young heart was playing upon aortic valves, probably merely well roughened, so as to be loudly musical without leaking or regurgitation—proving that the mere quantity of sound is no index of the severity of the disease.

The following example selected from Dr. Blakiston, reckoning to the time of the publication of his work in 1848, is the most protracted of any we have met on record. It is given also as the type of many latent unsuspected cases among quiet aged people, generally from slight aortic roughening from calcareous deposit; and, as in Case II., often causing little or no inconvenience in their daily duties.

Case VII.—*Aortic Obstruction, from Accident; for twenty-four Years.—Fair Exertion.—"Well," latterly.*

"A lady, aged sixty-five, was thrown from a carriage and struck the ground with her shoulder, in the year 1824. Considerable inflammation ensued. She was attended by Sir P. Crampton and recovered;

but, from that time, she was subject to violent fits of palpitation, which lasted generally twenty-four hours, in one of which I saw her, nine years after the accident. The pulse was intermittent, and there was a lengthened rasp sound running up the aorta. The diastolic sound was strong but muffled. On the fit of palpitation subsiding, the intensity of the sound decreased, but its quality remained the same. I saw her again in 1837, when the fits of palpitation were less frequent and less severe, and the pulse less intermittent.

"In 1846 I again attended her at Torquay, in consultation with Dr. Battersby and Dr. Toogood. The palpitations had entirely ceased for five years. She was then in her eighty-fifth year. The sound was the same as on the two former occasions. She still lives (1848), and is well, having no palpitations, dyspnœa, or edema of the feet."

From this description of Dr. Blakiston we have inferred that she was able to use a *fair* amount of exertion from the expression "is well," and from the fact that no mention is made of her being incapacitated for moderate exercise. She had neither dyspnœa, dropsy, nor hemorrhage. A very curious point in this case, was the gradual *improvement* similar to that mentioned in Case I.; and particularly the cessation of the palpitations for the last five years. In the table of cases, we have included an example recorded by Dr. Semple in the *London Journal*, of a thin old lady, in a charitable institution, at the advanced age of eighty-three years, who, from previous rheumatism, had suffered from valvular disease at least eight years. The pulse was eighty, and feeble; the impulse and dullness were nearly natural, showing little hypertrophy; double sawing murmur was heard over the origin of the aorta. There were also dyspnœa; cough; and some senile bronchitis. She sank gradually with aggravated pulmonary symptoms. On examination after death, the aortic valves were found ossified and narrowed to a mere chink, and the mitral slightly thickened and ossified. We believe that a pretty large per centage of such musical hearts from the ossified deposits, so common at that period, will be found among very aged persons.

M. Neucourt, in some researches on the condition of the heart among the inmates of the extensive asylum for the aged at Salpêtriere, published in the *Archives Generales*, states, as one of his conclusions, "that, with them, disease of the heart with very serious impairment of its functions may exist for a great number of years without causing death."

Case VIII.—*Mitral Regurgitation with Hypertrophy, from Rheumatism;—for eight Years.—Only gentle Exertion.—Stationary.*

A lady teacher, aged thirty, slender, consulted me in October last for "disease of the heart." At the age of fourteen, or sixteen years ago, she suffered from rheumatism for eleven weeks; and subsequently she has been a martyr to the disease nearly every year since. She did not notice any unusual sensations about her heart, until after an uncommonly severe attack, for which she remembers she was profusely salivated eight years since. From this time she was subject to severe palpitation and difficulty of breathing on slight exertion, and shortly after she was informed by her physician she had "disease of the heart." It had left her in a very nervous debilitated condition, so that she was unable to walk, even quietly, for years, for any considerable distance, without much exhaustion. She had never had dropsy. Five years since she once lost half a tea cup of blood by hæmoptysis. In May last she suffered a severe inflammatory affection of the lungs, from the prostration of which she is but just recovering; and since which the menstrual discharge has not returned.

Condition.—Face puffy, cheeks suffused, and of a slightly livid claret hue; pulse aggravated by nervous excitement, remaining at 116; impulse forcible, dullness extensive; apex points five inches to the left of the sternal center; with a *churning* harsh murmur heard with the first sound, and most distinctly at the apex of the heart, and below the sixth rib; palpitation on exertion; appetite improving.

In this case the patient had a careworn look, as in Case I.; her hair was becoming quite gray, so that she appeared ten years older than she really was.

Case IX.—*Mitral Regurgitation with very slight Hypertrophy, from Rheumatism;—for thirteen Years.—Moderate Exertion.—Stationary.*

A young friend, a clergyman, aged twenty-six, slender, but florid, consulted me a few weeks since for cardiac disease of long standing. At the age of eleven years he had suffered for three months with acute rheumatism, which left him without any palpitation or other cardiac symptoms. Subsequently with his father's family, he had passed several years in Europe. Two years after, or at the age of thirteen, while spending the winter in Paris, he had a very severe attack of rheumatism, lasting for six weeks, and accompanied by swelling of the joints, which finally left him with palpitation and other symptoms of disease of the heart, for which he consulted Sir. R. Chermside, M. Monod, M. Bouillaud, and Baron Louis. M. Bouillaud pronounced it a very "grave case." He remembers he was cupped over the heart and took ether and iron. He left Paris for Geneva the following summer in a very weak state, still suffering from heart-symptoms. While in Geneva he was induced to try Homeopathic treatment. During the ensuing year and a half, he began gradually to get taller, and, so to speak, to outgrow his disease. After his return to New York, in 1843, he was under the judicious care of the late Dr. Washington. Entering the ministry he was sent abroad again, and officiated regularly, for a year or more, as a missionary chaplain, at an important post in one of the European cities. Occasionally he has suffered considerable inconvenience for weeks or months from his heart-symptoms, but at no time has he been obliged to suspend his labors for any lengthened period. At present he is able to preach in our city churches.

Condition.—Face delicately florid; pulse natural; no precordial bulging, and little, if any, increase in the area of dullness, or the impulse, or change in the position of the apex. Just over the apex with the first sound of the heart, was a distinct muffled syringe murmur of mitral regurgitation. The appetite and other symptoms were natural.

The comparatively little inconvenience caused in this instance by the disease, doubtless depended entirely on the small quantity of blood escaping and the integrity of the muscular substance of the heart; or, in other words, the absence of material hypertrophy or dilatation. Very *extensive* mitral regurgitation, we believe, from observations not embodied here, to be one of the graver and more dangerous forms of chronic heart disease; and yet the above and the following case from Dr. Stokes, show that a *slight mitral leakage*, when stationary, with little or no enlargement, is not sufficient to produce pulmonary congestion, and may exist with little disturbance, for a great many years. Such encouraging exceptions to unfavorable general rules, when once definitely established, are of great practical value.

Case X.—*Mitral Regurgitation from Rheumatic Gout;—for twelve Years.—Violent Exertion.—Excellent Health.*

A sanguine, active young man, living luxuriously, and just previously in excellent health, on consulting a physician for an attack of epidemic influenza, was surprised with the announcement of disease of the heart, indicated by the bellows murmur of mitral regurgitation, and suddenly ordered to change from good dinners, generous wines, and free horse-back exercise, to low diet, total abstinence, timid walking. These with unnecessary medical treatment soon produced constant fear of sudden death, and depression of mind and body. "It was under these circumstances," says Dr. Stokes, "that I first saw him." The pulse was full and fair, the lungs were healthy, the heart was tranquil and normal in its signs, with the exception of a "distinct" murmur confined to the region of the mitral valve. Depressing treatment alone seemed to have brought on palpitation and aggravated all his symptoms, and there had been no marked cardiac or pulmonary inflammation otherwise to account for the disease. Dr. Stokes attributed the murmur to a slight mitral roughening or "cicatrix" from acute rheumatic gout seven or eight years previous, just sufficient to produce the murmur without interfering materially with the functions of the valve. He advised an entire change of treatment, allowed the moderate use of stimulants, and a return to active business habits. The mitral murmur continued unchanged, and without injury, till the patient was last seen, and during a period of twelve years. He obeyed the request of Dr. Stokes to be examined once a year, continued in excellent health, and at one of the last visits, he had just returned in high spirits from carrying pouch and gun on a hunting excursion among the mountains of Scotland, without the least inconvenience.

Case XI.—*Aortic and slight Mitral Disease.—Great Hypertrophy, from Rheumatism;—for twenty-two Years.—"Half" Labor.—Brief severe Illness.—Death.*

In the report of the New York Pathological Society published in the New York Journal of Medicine for September, 1850, there is a remarkably interesting case with a specimen presented by Dr. Smith of Randolph, Vermont, through Professor Clark, of this city, from which we condense the following abstract.

The patient, a young man of twenty-eight years, had been under the care of Dr. Smith for rheumatism and organic disease of the heart, at times, for twenty-two years previous to his last illness. Both his mother and grandmother had been subject to rheumatism. "Organic disease of the heart" had been detected by Dr. Smith after a severe rheumatic attack when the patient was a lad of six years. He grew up in delicate health and suffered no less than four subsequent attacks of severe rheumatism, respectively at the ages of eight, twelve, sixteen, and eighteen years, besides being incapacitated a few weeks from over exertion at twenty-five. For many years before his death he could perform at intervals of considerable length about half the agricultural labor of other young men. But, as Dr. Smith observes, "At no time could a stranger apply his ear to the chest without astonishment that he could do any kind of work, or without fear that the walls of the heart were about to give way and cover the listener with blood."

No further exact description is given of valvular murmurs or any other physical signs of special complications. After unusual exertion and sleeping in a crowded, ill-ventilated apartment, early in May, 1848, he was seized with a sense of exhaustion, faintness, thirst, restlessness, loss of appetite, succeeded by edema of the feet, cold clammy sweat, feeble and at length almost imperceptible pulse. After suffering a week in this condition, while attempting to rise and walk one day, he fell into the nurse's arms and expired.

On post-mortem the heart was found hypertrophied so as to weigh fifty-eight and a half ounces (or three and a half lbs. averdupois); the left ventricle was an inch thick with a cavity holding eight or ten ounces; the right ventricle was less changed, and the pericardium was every where adherent except some slightly loosened interspaces. Professor Clark stated that on minute examination the mitral valve was "thick and leathery," and the margins of the aortic valves were covered with "adventitious deposit."

In most of the examples of aortic and mitral lesions combined, the disease greatly predominated in one, while the other was but slightly involved. In the following case from M. Forget the disease equally affected both, while the free mitral regurgitation seemed a vent to prevent hypertrophy of the left ventricle.

Case XII.—*Simultaneous Lesion of the Aortic and Mitral Orifices, without Hypertrophy; from Rheumatism;—for three years.—Gradual sinking.—Death.*

A girl aged 26 years, of good constitution, had been attacked three years previous with acute articular rheumatism of long duration, during the course of which she had had palpitations, dyspnœa, and infiltration of the legs, which disappeared. Six months since, the difficult breathing and edema returned. We noted :—face puffy, slightly cyanotic; eyes injected; no bulging; extended dullness of the precordial region; purring tremor; harsh systolic bellows murmur; jugulars pulsating and varicose; pulse small, frequent, at times irregular; dyspnœa extreme; slight subcrepitant rales; considerable anasarca;

enormous ascites; urine reddish. She was ordered diuretics, mainly of digitalis and squills, with fomentations. A few days after, she improved slightly, so as to bear bleeding and the continuation of the diuretics. The fomentations produced erysipelas of the abdomen, followed by perspirations and more abundant urine.

At the end of a month the infiltration was much diminished; but the dyspnœa and rasping systolic murmur continued. She was ordered diuretics and laxatives.

The patient lingered thus for a long time, when at length the feebleness and edema reappeared, with a bellows murmur, with the second sound distinguished with difficulty in the tumult of the heart; also suffocations, cyanotic appearance, and thread-like pulse.

She was treated with stimulants and revulsives. She died tranquilly four and a half months after her entrance.

Autopsy:—serious effusion in the cavities of the pleura, the peritoneum and the arachroid; serosity in the pericardum; no hypertrophy or dilatation of the left ventricle; auricles gorged with blood; the mitral and aortic orifices equally ossified, deformed, contracted, and insufficient.

Our limits oblige us to close these more full details. To present the largest number of illustrations in the least possible space, we have gathered all the legitimate, well-described examples of valvular disease we could find lasting three years or more, in the following table, as a kind of chart of the whole subject. Further protracted examples of aortic and mitral disease alone, and in every possible combination, and the very rare forms of tricuspid and pulmonic valvular lesions, are gathered from the works of Bouillaud, Bertin, Forget and others, which we trust will repay careful study. We have sought simply and honestly to arrive at truth, and have included every fairly illustrative case accessible to us in the records of the last twenty years, without favoring any theory, and without rejecting any of three years' duration, except they were too vague or imperfect. If some examples defective in minor points have been retained, it has been because they have been definite and instructive in other features, and because our materials have been too scanty to spare them. On the important point most difficult to settle—the precise *duration*—most of the rejections have occurred. All those instances recorded by Andral and others, in which indefinite phrases, such as "many years," "a very long time," and the like are used, have been excluded. In the few less perfect cases retained, the evidence is so strongly presumptive that the chances for error are perhaps not more than one in ten. It is well known that both within and without the profession a vague apprehension prevails that valvular disease of the heart is necessarily and *speedily* fatal. While we desire from an array of facts, to modify and restrain this fear within just limits, we have no desire to lull into false security, those interested in this terrible malady. Frankly, then, we conclude this explanation by reiterating that the following table, as its heading implies, does not present the *medium average*, but the most *favorable extreme*, and that, while its results have delighted and surprised us, we have no wish to throw any off their guard.

A Table of Forty-one Cases of Protracted Valvular Disease of the Heart—for Three Years or more.

Abbreviations:—p. pulse; pal. palpitation; dysp. dyspnœa; imp. impulse; murm. murmur; dull. dullness; r. right; l. left: st. sternal; ap. apexial; sys. systolic (1st sound); diast. diastolic (2nd sound); w. with; wt. weight; ld. loud; str. strong; * autopsy.

No.	Sex.	Age.	Condition. Exertion.	Cause.—Years Duration.	Some Symptoms.	Valves Affected.	Hypertrophy, Dilatation & Pericard. Ad.	Complications.	Result.	Authority.
1	M.	68	Clergyman. Act. or seden.	Rheumatism. 15	Face anx. fresh.; p. nat.; pal.; dull. 3in; imp. mod.; murm. sys. r. st. rasp.	Aort. obstr. fr. ossific. dep.	l. hypert. dil. wt. 17oz.	Dyspepsia. "nervousness."	Sud. death.*	J. W. C., *N. Y. Jour. Med.*
2	M.	10	School-boy. Active.	Rheumatism. 8	Face nat.; sallow; p. 85 firm pal.; imp. mod.; dull. sl. inc.; murm. sys. r. st. ld. rasp.	Aort. obstruct.	Slight hypert. with dilatation.	------------------	Improving.	J. W. C. *N. Y. Jour. Med.*
3	F.	32	Married.	14	p. feeble; prec. pain; dysp.; cough; imp. br. str.; dull ext.; interm.; mur. sys. bel. *l. ster.*	Aort. obstruct. thick contracted.	Great hypert. w. dilatation.	Hæmoptysis.	Sank grad.*	Dr. Haycraft, *Lond. Med. Gaz.*
4	M.	33	-------------	Rheumatism. 10	p. full intermitt.; pal.; dysp.; dullness to r.; murm. doub. sawing.	Aort. obstruct. shrivelled indur.	Some hyper. great dil. per. ad.	------------------	Died.*	Mr. Tripe, *Lond. Lancet.*
5	M.	59	"Gentleman."	4	p. full; pal.; pain; dysp.; cough; bulg.; imp. str.; dull. extend.; murm. r. st. grat'g carot.	Aortic obstruction. thickened.	Great hyper. dila. ad. per. wt. 28oz.	Sl. aneurism. album 6mo.	Sank grad.*	Dr. Williams, *Lond. Lancet.*
6	F.	young.	"Lady." Usual amuse.	6	p. shrill; pal.; pain; dysp.; cough; "purring;" imp. str.; murm. sys. grating.	Aort. obstruct.	------------------	------------------	Continued well.	Dr. Williams, *Lond. Med. Journ.*
7	M.	52	Cook. Moderate.	10	Face paralysed, distorted; p. 96 full; dysp.; cough; pal.; murm. loud rasp.	Aortic obstruction. calc. concretion.	Great hyper. w. dila.	Palsy apop. dropsy.	Died sudd. apop.*	Dr. Hope, *Dis. of Heart.*
8	M.	24	Gardener.	Rheumatism. 8	Face puffy; restless; p. 120 full jerking; pal.; imp. ext.	Aortic obstruction. cartilag.	Great hyper. w. dila. per. ad.	Hæmoptysis.	Sank grad.*	Dr. Hope, *Dis. of Heart.*
9	F.	87	"Lady." "Well."	Fall. 24	p. intermitt.; pal. 19 years; murm. sys. r. st. ld. rash; 2d sound accented.	Aortic obstruction.	None mentioned.	Probably pleurisy.	Living. "well."	Dr. Blakiston, *Dis. of Chest.*
10	M.	17	Cabin-boy. Active.	Rheumatism. 6	Florid; eye protub.; p. 84; pal.; bulg. imp. str. heaving; dull. 3½; mur. diast. r. st. rasp.	Aort. regurg.	Med. hyper. w. dilat.	Pleurisy scrof. scia.	Latterly failing.	J. W. C., *N. Y. Jour. Med.*
11	M.	32	Weaver. Quiet walk.	Rheumatism. 13	Pale; eye prot.; p. 80 jerk.; pal.; dysp.; bulg.; imp. st.; dull 4in; murm. r. str. sawing doub.	Aortic obstruction and regurgitation.	Large hyper. dila.	Asthmat. occasi. bronchit.	Good. improving.	J. W. C., *N. Y. Jour. Med.*
12	M.	29	Shoemaker. Moder'ly act.	Rheumatism. 8	Florid; eye protub.; p. 86 int. shrill; resp. 24; dysp.; pal.; im. heav.; dull 4; murm. r. st. saw.	Aortic obstruction and regurgitation.	Large l. hyper. with dilat.	Hæmoptysis. deafness.	Latterly failing.	J. W. C., *N. Y. Jour. Med.*
13	M.	45	Waiter. Active.	Rheumatism. 11	Sallow; p. 64 nat.; dysp.; pal.; imp. s. heav.; dull. 4; mur. sys. r. st. saw.; 2d sd. acc.	Aortic obstruct. and regurg.	Large l. hyper. with dilat.	Bronchitis. enlar. spleen.	Latterly failing.	J. W. C., *N. Y. Jour. Med.*
14	F.		------------------	Pulm. inflam. 8	p. small; cough; imp. heaving; murm. doub. saw. r. ster.	Aortic obstruct. and regurg. cart.	Great hyper. w. dilat.	------------------	Died sudd.*	Dr. Blakiston, *Dis. of Chest.*
15	M.	20	Green grocer. Active.	Rheumatism. 5	Face puffy; p. jerking; pal.; dysp.; imp. doub.; jogging; murm. sawing doub. st.	Aortic obstruct. and regurg. ossif.	Great dil. some hyper. exc. ad. peric.	Dropsy.	Sank grad.*	Dr. Hope, *Dis. of Heart.*
16	M.	19	Unemployed. "Delicate."	Prob. 12	p. full resilient, "wavy"; cou.; dysp.; pal.; pain; im. str. heav'g; dull. ex.; m. dou. saw. g. st. car.	Aortic obstruct. and regurg. ossif.	Enorm. hyper. with dil.	Hæmoptysis.	Sud. death.*	Dr. Blakiston, *Dis. of Heart.*
17	M.	61	Cabinet mak'r (Intemp.)	Rheumatism. 3	p. 120 weak; dysp.; pal.; murmur grating blowing.	Aortic obstruct. and regurg. ossif.	Great hyper. w. dilat. ad. peric.	Atr. liv. dropsy.	Died.* sank. grad.	Dr. S. Alison, *Lond. Med. Gaz.*
18	M.	45	Laborer.	Rheumatism. 6	p. 72 full thrill.; pal.; distress; dysp.; cough; imp. diff'ent; murm. sawing.	Aortic obst., harsh, and regurg., soft, ossif.	Great hyper. w. dilat.	------------------	Died sudd.*	Dr. Williams, *Lond. Med. Gaz.*
19	M.		Active.	19	Not mentioned. (Prostrated and then "let alone" for 18 years.)	Aortic. vegetations.	------------------	------------------	Died.*	Dr. Corrigan, *Dub. Journ.*

20	M.	40	....	3	p. full bounding ; pal. ; pain. [illegible]	Aortic. ossif. Inverted.	Pericard Ad.	Angina. pec. aneur.	Sank grad.*	Dr. Hodgkin, *Lond. Med. Gaz.*
21	F.	30	Teacher. Feeble.	Rheumatism. 8	Face & eyelids puffy, livid ; p. var. ; pal. ; dysp. ; c. ; im. b., swel. ; dull. ex. ; mur. apex. s. m. sy.	Mitral regurgitation.	Dilatation with hyper.	Amenorrhœa. slight heamopysis.	Living. delicately.	J. W. C., *N. Y. Jour. Med.*
22	M.	28	Clergyman. Moderate.	Rheumatism. 13	Face florid ; p. nat. ; pal. ; imp. and dullness nearly nat. ; murm. sys. ap. syr.	Mitral regurgitation.	Very slight hypert.	....	Living. mod. exert.	J. W. C., *N. Y. Jour. Med.*
23	M.	young.	Profession. Active.	Prob. rheum. 12	Distinct ap. mur. (bellows) palpita. when weakened by treatment.	Mitral regurgitation.	None mentioned.	....	Living in excel. healt.	Dr. Stokes, *Dis. of Heart.*
24	M.	old.	"Gentleman." Very active.	Not given. 4	"Loud rough mitral murmur."	Mitral regurgitation.	....	....	Hunting daily.	Dr. Stokes, *Dis. of Heart.*
25	F.	29	Unmarried.	7	p. small, interm. ; pal. ; dysp. ; cough ; murm. sys. apex.	Mitral regurgitation. obst. (ossif. contract.)	Rather small.	Dropsy. palsy.	Death.*	Dr. Watts, *Lond. Med. Gaz.*
26	F.	25	Servant. Unmarried.	5	Face livid ; pal. ; cough ; murm. sys. ap. ; 2d sound oblit. at apex.	Mitral regurg. ossif. contract.	Hypertrophy of right vent.	Dropsy. bronchitis.	Sank grad.*	Dr. Budd, *Lond. Med. Gaz.*
27	F.	29	Dressmaker. Single.	Rheumatism. 12	pal. ; dysp. ; cough ; murm. sys. apex. rasp.	Mitral regurg thickened.	Adher. pericard.	Pleurisy.	Died.*	Dr. Blakiston, *Dis. of Heart.*
28	M.	60	"Gentleman."	Rheumatism. 8	p. small, feeble ; dysp. ; cough ; im. str. ; murm. sys. ap. blowing.	Mitral regurg. thickened.	Great hyper. 22oz.	Dyspepsy. dropsical.	Sank grad.*	Dr. Furnivall, *Lond. Lancet.*
29	M.	40	Farrier. Moderate.	Fall. 8	p. irreg. ; pal. ; dysp. ; cough ; imp. diff. ; murm. whiz. ap. sys.	Mitral regurg. thickened.	Great hyper.	Dropsy. jaundice.	Sank grad.*	Mr. Moore, *Lond. Lancet.*
30	M.	29	Spare, delic.	Pleurisy. 9	p. str. vib. in com. ; pal. ; pain ; imp. str. heav. ; dull. ex. ; murm. doub. sternal.	Aort. mainly. ossif. Mitral slight. thick.	Enor. hyp. dil. ex. per. ad. wt. 44oz.	Frightful parox.	Died sud.*	Mr. C. King, *Dub. Hosp. Journ.*
31	F.	83	"Thin old woman."	Rheumatism. 8	p. 80 reg. feeble ; imp. and dull. nearly natu. ; murm. doub. saw. aortic.	Aortic mainly. Mitral slight. ossif.	Little change.	Bronchitis. pleuro-pneumon.	Sank grad.*	Dr. Semple, *Lond. Journ.*
32	M.	28	Prob. farmer. "Half" labo.	Rheumatism. 22	Imp. ex. str. (few details.)	Aortic mainly. ossif. Mitral slightly.	Enorm. hyp. dil. ext. per. ad. wt. 58½oz.	....	Sank grad.*	Prof. Clark & Dr. Smith, *N. Y. Journ.*
33	F.		Married.	Parturition. 10	Face livid ; p. sm. interm. ; pal. ; dysp. ; imp. impercep. sounds short. ; no murm.	Mitral contracted. Aort. very slight. thick.	Right dilat. left slight.	Pulm. ap. bronch. dropsy.	Sank grad.*	Dr. Hope, *Dis. of Heart.*
34	F.	26	Good consti.	Rheumatism. 8	p. freq. sm. irreg. ; dysp. ; dull. ext. ; purring ; murm. rasp. sys.	Mitral cont. aortic. ossif.	....	Dropsy twice.	Sank grad.*	M. Forget, *Prècis. Th. et Pr.*
35	M.	26	Robust.	Rheumatism. 5	p. sm. hard. resil. ; slight bulg. ; dysp. ; pain ; pur. ; im. st. ; jugu. pul. ; murm. fugitive.	Mitral contract. ossif. Aortic thick.	Hyper. of both vent.	Dropsy.	Sank grad.*	M. Forget, *Prècis. Th. et Pr.*
36	M.	28	Currier. Mostly active.	Rheumatism. 14	p. irreg. weak. latterly ; pal. ; dysp. ; cough ; imp. str. large ; murm. bellows.	Mitral contract. ossif. Aortic insuf.	Great hyper. with dil	Dropsy.	Died.*	*Lond. Med. Gaz.*
37	F.	45	Married.	Lifting. 3	p. 80 int. ; pal. dysp. ; cough ; pain ; imp. str. ; murm. aort. doub. whiz.	Aortic mainly ; mit. and tric. slight. cartil.	Much hyper.	....	Died sud.*	Dr. Hallowell, *Hay's Phil. Jour.*
38	F.	19	Seamstress. Delicate.	Pulm. inflam. 3	p. 60 ; pall. ; dysp. ; cough ; dull ext. ; murm. apex. saw. sys.	Mitral contr. Aortic & tri. slight.	Hypertro. 12oz. Liver enlarg.	Pneumonia.	Sank grad.*	Bouillaud, *Mal. du Cœur.*
39	M.	21	Lawyer's clerk.	Rheumatism. 7	p. sm. ; pal. ; dysp. ; constric. ; bulg. ; purring ; jug. puls. ; murm. apex. sys. saw.	Mitral regurg. veget. Triscusp.	Dilatation.	Dropsy.	Sank grad.*	Dr. Blakiston, *Dis. of Chest.*
40	M.	48	....	Pulm. inflam. 8	p. sm. soft irreg. ; pal. ; imp. sternal ; dull. r. ster. ; dysp. ; cough ; *puls. jugulars.*	Tri. regurg.	Right. Hypert.	Hæmoptysis. pulm. ap. dropsy.	Sank grad.*	Mr. Tripe, *Lond. Lancet.*
41	F.	57	Delicate. feeble.	Mens. cessa. 10	Dysp. ; dull. r. stern. ; insensibility.	Pulmon. contract. ring.	Right hypert. 12oz.	Palsy. ap. cer. soft.	Sank grad.*	Bertin, *Mal. du Cœur.*

Valves Affected.—This point was determined *anatomically*—as marked with an asterisk by post-mortem examinations in all the fatal cases, amounting to thirty, or about three fourths of the whole; and *clinically*, or by the murmurs, and other symptoms in the remaining eleven cases living. Both methods throw light upon the subject, and, to do full justice, where circumstances allow, both should be used. During life, and while our services are of value to the individual patient, of course only clinical tests of valvular disease are available. Did our limited space allow, we could offer, in detail, evidence to show, that occasionally the mitral or tricuspid valves, by a curative effort of nature, thicken and enlarge with the gradual increase in the size of the diseased ventricle, so that valvular murmurs or other signs may cease, and the valves be *refitted.* Such were some of the cases reported in the *Dublin Journal* by Dr. O'Ferrall. We have a patient now under observation, who was quite disabled with rheumatic disease of the heart with a loud mitral murmur a few months since, whose murmur has lately ceased, and who has returned to active labor. It is true these recoveries are the fortunate exceptions, and not the grave rule. But these repaired valves, working well during life, would be rejected after death as unsound, by the nice measurements of a mere morbid anatomist. On the other hand, as M. Forget has observed, valves may be really diseased and not, in every case, give forth murmurs or corresponding signs. As a fair compromise we may then adopt, for the present, the following classification, mainly anatomical, in enumerating the above, which, from the necessity of frequent reference, we arrange thus distinctly:—*Valves Diseased.*—Aortic alone, 20; Mitral alone, 9; Aortic and Mitral, 7; Aortic, Mitral and Tricuspid, 2; Mitral and Tricuspid, 1; Tricuspid, 1; Pulmonic, 1.

Obstruction and Regurgitation.—Not merely as nice points in diagnosis, but as causing important differences in their results, do we notice these features. Obstruction, as we all know, is the term used where the narrowing or roughening of the orifices or valves of the heart impede the onward current of the blood, producing generally either a loud murmur over the aortic valves with the *first sound* of the heart; or, more rarely, a faint obscure murmur over the mitral valves with the *second sound.* Regurgitation, on the contrary, as we know, is the flowing back of the blood through the leaking or "insufficient" valves, spoiled and unfitted by disease, and commonly gives murmurs either over the aortic valves at the sternum with the *second sound*, or over the mitral valves at the apex with the *first sound.* Aortic obstruction and regurgitation are usually found together, from the roughness and leaking of the valves at the same time, and hence they affect both sounds, and cause a double or sawing murmur. It will be seen in the following classification of those specified in our list, that the cases with aortic obstruction alone and those combined with regurgitation were about equal, while aortic regurgitation without obstruction occurred but once; and that all the mitral murmurs were regurgitant:—Aortic Obstruction alone, 9; Aortic Obstruction and Regurgitation, 8; Aortic Regurgitation alone, 1; Mitral Regurgitation alone, 9.

Sex and Age.—It will be seen on inspection that about two thirds in the whole forty-one cases were males. This result was produced almost entirely by the preponderance of males in the large class of aortic cases, being in the proportion of three males to one female. In the mitral and other classes the sexes were about equal. Thus, of the forty-one cases, twenty-seven were males and fourteen females; of the twenty aortic, fifteen were males and only five females.

So also the commonly-received opinion that mitral disease attacks a younger class of subjects was confirmed. In the seventeen cases of aortic specified, the average age, rejecting small fractions, was forty years, while eight mitral only averaged thirty-two years. The remaining ten miscellaneous, and the whole forty-one cases, averaged thirty-nine years.

Condition, Exertion.—One of the most painful duties of a physician is to be obliged to paralyze an active and useful patient in the pursuits or amusements of a life-time, to palliate incurable disease; yet our prognosis in heart affections sometimes partly depends on whether a man is rich or poor; or, in other words, whether he can afford to be quiet, or whether he must fret and toil hardly for his daily bread. Singular anomalies sometimes occur, setting at naught all calculation. A few with cardiac disease can endure surprising physical exertion, while the majority are either injured or destroyed by violence or excitement.

In the above list the physical capacity of the patient is sufficiently defined for classification in twenty-one instances. Of these there were unembarrassed and "*active,*" seven aortic and two mitral; "moderately active," three aortic, two aortic and mitral, one mitral and one pulmonic; "*moderately disabled,*" two aortic and mitral and one aortic; "*disabled,*" one aortic and one mitral. The most physical exertion with the least embarrassment was borne in aortic or mitral difficulties with little or no hypertrophy, while in some cases of extensive enlargement with aortic lesions very considerable exercise was permitted.

Causes.—The etiology of disease of the heart has latterly acquired unusual interest. Pathologists generally were prepared to yield by far the largest share of the origin of cardiac difficulty to rheumatism, when they were startled by the announcement by Dr. Taylor, in the *Medico-Chirurgical Transactions,* that among the frequently-intemperate patients of a London Hospital, in thirty-one cases of pericarditis, nine if not eleven were associated with Bright's disease. With other observers since, the proportion has been less. Whatever may be its influence in acute affections, Bright's disease only occurred in the above list of protracted cases once, at the close of a case, whose end it seemed to hasten, while in the twenty-nine instances in which the causes are named, twenty were from rheumatism, four from pulmonary inflammation, and three from violence. Two thirds are thus assigned to rheumatism and one tenth to pleurisy and pneumonia.

Duration.—Under the vague apprehensions that have prevailed, this is one of the most interesting points in the whole discussion. For reasons to be explained, we shall group our cases differently under the head of prognosis. The reader will find vague speculations on this subject in the contributions of Valleix,* Williams and others, but we are not aware that the *differential* duration of the several forms of valvular disease have before been made the subject of careful estimate. We are exploring, then, new and difficult ground. To be perfectly accurate, we need larger numbers. We cannot but regard these figures however as a valuable approximation toward the average limit of the most favorable class of cases of valvular affections. We did not expect so hopeful a result even with the best.

In round numbers, the average duration of these forty-one selected cases, it will be perceived, reaches the extraordinary term of nine years. Allowing for the probable addition in eleven patients still living at the time of the report, amounting to over one fourth of the whole number, we might be safe perhaps in rating the *probable* average duration of these forty-one favorable cases at the easily-remembered figure of *ten years.* It will be seen that the longest in duration as a class, are those with aortic obstruction alone, and the shortest are those in which valves of the right and left side are simultaneously involved. Smaller fractions are rejected. The results are so interesting that, for convenient reference, we state them in the following distinct form :—

AVERAGE DURATION.

Nine cases of Aortic Obstruction	10½	years.
Eight do. of Aortic Obstruction and Regurgitation	8¼	"
Nine do. of Mitral Regurgitation	8½	"
Seven do. of Aortic and Mitral	10	"
Six do. of Miscellaneous	6	"
Three do. of right and left simultaneously . . .	4	"

Symptoms.—The *face* is often a valuable index in disease of the heart. If Nature in her efforts has just compensated for the obstructed or leaking valves by strengthening the ventricles and *no more,* then the face may be *natural;* if she over-does the matter, and there is more hypertrophy and more power than is needed, then the cheeks may be unusually florid and the lips freshly ruby. Where there is excess of hypertrophy, with aortic valvular disease, there is sometimes a *protuberant staring expression of the eye,*—a symptom of organic cardiac disease, by the way, which we supposed for years to be a little discovery of our own, till at last we noticed it was mentioned in a late edition of Dr. Walshe. It somewhat resembles the bright bulging eye with swelling of the thyroid gland described by Drs. Graves and Stokes as peculiar to certain functional cardiac affections. A puffy appearance of the eye-lids is sometimes noticed in heart disease with a tendency to edema. As consequences of valvular affections, too, we may have the pale chlorotic features and bloodless lips of passive dilatation; the jaundice of a disordered liver; the waxy, cancerous hue of Bright's disease; the distortion of palsy, and especially the *livid dusky or purplish lips and face,* generally either from the pulmonary congestion;

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* *Guide du Medécin Practicien.*

of too free mitral regurgitation or hypertrophy of the right ventricle. The appearances of the face and eye which happen to be mentioned in the above list, with the corresponding valvular affections, may be thus enumerated: *Fresh or florid*, aortic obstructive, 2; Aortic regurgitant, 1; Mitral regurgitant (with slight hypertrophy), 1; *Bulging bright eye*, aortic obstructive and regurgitant, 2; Aortic regurgitant, 1; *Puffy* appearance, aortic obstructive, 1; Aortic obstructive and regurgitant, 1; Mitral regurgitant, 1; *Livid or dusky*, Mitral regurgitant, 2; *Distorted*, Aortic obstructive, 1.

The pulse was noticed in thirty-two cases. It was "jerking," or "thrilling" in nine instances, all with aortic valvular difficulties, and all of which were regurgitant. As a general characteristic, it will be perceived that the pulse was harder and fuller in aortic valvular affections than in mitral difficulties, which tended to render it smaller and weaker. We can understand this from the fact that mitral regurgitation acts on the principle of a leakage or rent in an India-rubber bag, while mitral obstruction would diminish the supply. Intermittent pulse often exists from idiosyncrasy in health, or temporarily, in mere functional disturbance of the heart. In the above list the pulse was intermittent or irregular in nine instances, of which more than half had mitral disease, either singly or combined, and as the whole number of protracted mitral affections were not quite half as numerous as the aortic, it follows that either a weak, small, or intermittent pulse is most frequently characteristic of mitral disease.

Palpitation has been defined to be the sensation of unusual or painful action of the heart, generally occurring in paroxysms. It is by no means confined to organic disease. In the above list it is one of the most frequently noted of the symptoms, being found in thirty-two instances pretty equally distributed through all forms.

Precordial Pain seemed caused mainly by the pressure of the enlarged heart, as in aneurism, and especially the violence of the knocking impulse. In proof of this view we have the fact that in seven of the eight instances in which precordial "pain" is recorded above, there were also strong impulse and large hypertrophy, and in the solitary case where they are not mentioned, only two or three symptoms are given, and both these may be inferred from the "full bounding impulse." All these eight illustrations were wholly or partially aortic, while not one of the cases of mitral disease alone had pain.

Precordial Bulging, though often overlooked from its requiring careful inspection in front and laterally, seems also to depend on the same causes. Both the instances in which it occurred above, were aortic with large hypertrophy.

The Impulse of the heart was noted in twenty-six cases. Though temporary variations from the natural standard are frequent in mere functional disorder of the heart, yet when these are attended with an increase in the area of the dull precordial region, they become certain indications of organic enlargement. It is curious to notice above that the force of the impulse is affected by the character of the valvular lesion. Of the thirteen instances in which the impulse is marked strong or heaving, twelve are aortic, and only one purely mitral, and in this last it may have been from adherent pericardium. The seven cases most forcible or heaving are all aortic, and, with the exception of one purely obstructive, all, either combined or simply, have aortic regurgitation. Of the cases comprising five marked "moderate," one (mitral and tricuspid) "feeble," and six without undue force, as simply "extensive,"—eight, or two thirds, were wholly or partially mitral. There are natural reasons for these differences. The aortic valves are the gates to the whole arterial system, and they require a larger, firmer heart, and a stronger impulse to make up for their deficiency. Beside, in free mitral regurgitation the ventricle empties itself, in contraction, more easily through the additional orifice, opened by disease, than the single natural outlet in health, or when the mitral closes perfectly. Hence the impulse of aortic disease is stronger, and of mitral, weaker.

The Purring Tremor, or *Fremissement Cataire* of Laennec, occurs, as is well known, most frequently in mitral disease. In affections of the aortic valves it is supposed that the intervention of the sternum prevents this peculiar vibratory sensation to the hand, similar to that from the purring of a cat. In the three cases in which it was above mentioned, there were mitral and aortic, 1; mitral and tricuspid, 1; and aortic obstructive, 1.

Apex and its dull Space.—To the rule laid down by Hope and others that the apex of the heart should point, in health, just above the sixth rib, two inches below the left nipple, and one inch to its sternal side, we have sometimes added, as a less variable standard, the measurement of three and a half inches to the left of a line in the center of the sternum, as the center of the apex and its dull space. Although the dull space, over the apex, of one and a half or two inches, is nearly circular in health, yet, on delicate percussion, when enlarged by disease, it is sometimes imperfectly triangular or oblong. The number of inches mentioned in some of the cases above refers to the *average* diameter.

Pulsation of the Jugulars.—As is well known, this is the great diagnostic test of regurgitation, or insufficiency of the tricuspid valves. With every contraction of the heart there is a wavy pulsation, easily recognized by the eye, in the jugulars, which, with the other veins of the neck, are in this case generally enlarged. This sign is noticed above in three cases.

Accented second Sound.—The importance of this sign, we believe, was first pointed out by Prof. Skoda.* He states that in mitral regurgitation and obstruction, on applying the ear over the pulmonic valves the second sound of the heart is prolonged and intensified. We have frequently noticed this sign, when there was bronchitis or congestion of the lungs from embarrassed circulation in other varieties of valvular disease. This last almost always occurs in serious mitral disease of either kind. The accent is a delicate test, when slight, and easily overlooked. In both the instances in which it happened to be noted above, there was aortic difficulty alone.

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* *Abhandlung über Perkussion und Auskultation.*

Valvular Murmurs.—A glance at the above table will confirm the general doctrine that aortic murmurs, as a class, are usually more harsh than mitral. Dr. Hope recognized this principle in comparing the blowing aortic murmur to a whispered "awe," and the mitral to a softly breathed "who," on a lower key. But these are doubtless much modified and varied by duration, becoming as a general rule more harsh and loud. We fancy that mitral murmurs are generally the most liquid or moist in their character.

In the thirty-four instances, in which the character of the murmurs were given above, there were, "Sawing," Aortic, 9; Aortic and Mitral, 1; Mitral, 1; Mitral and Tricuspid, 1; Mitral Tricuspid and Aortic, 1; there were "*Rasping*," Aortic, 5; Aortic and Mitral, 1; Mitral, 1; "GRATING" Aortic, 3; "*Bellows*," Aortic, 1; Mitral, 1; Mitral and Aortic, 1; "*Muffled syringe*," Mitral, 2; "*Whizzing*," Mitral, 2; "Loud rough" Mitral, 1.

Thus sixteen out of the entire aortic seventeen were either sawing, rasping or grating, while only two mitral out of nine were harsh; one rasping and one loud rough. Under another head we have stated in detail that the aortic obstructive murmurs alone, and obstructive and regurgitant together, were about equally divided—there being nine of the former, and eight of the latter—while the whole nine mitral were regurgitant.

In more acute or recent valvular lesions, before the heart has time to be enlarged or displaced, the sound of valvular murmurs is carried but a short distance by the stream of blood. Hence obstructive aortic murmurs are almost invariably loudest at the *right edge* of the sternum over the origin of the aorta near the junction of the second rib; while the murmur of aortic regurgitation, especially when free, is often loudest at the *left edge of the sternum* a little lower down and near the middle of the heart.

In the above list, probably from the great hypertrophy in protracted aortic disease crowding the heart upward, all the *aortic* murmurs, except one case of obstructive bellows murmur, were *loudest* at the *right edge of the sternum.* In two cases the aortic murmur was also heard in the carotids. The nine *mitral* murmurs were all loudest at the usual seat, a little upward and outward toward the left nipple, over the *apex of the heart.*

Diagnosis.—Our highest aim in this discussion is simply to be useful. If, from a vivid recollection of such difficulties ourselves, for the encouragement of some of those younger students of the profession who have at times so kindly listened to our humble teachings, we try to arrange, more clearly, technicalities and elementary distinctions in the study of heart disease, quite common-place to others; and if we wander from dry facts and figures to familiar illustrations; we hope after this frank confession to be forgiven.

One half the cases of derangement of the heart for which we are consulted in private practice especially, are simply functional affections.

It is very easy to mistake the slight aortic blowing or whiffing of anemia, or the distressing palpitation and violent impulse of mere temporary functional irritation, or congestion, or debility of the heart, for organic valvular disease, and its almost invariable associates, hypertrophy and dilatation.

We may be excused then, for repeating the following analysis, partly from Canstatt,* which we adopted in an article in this Journal sometime since on "Functional and Sympathetic Affections of the Heart."

In Functional Heart Affections:	*In Organic Heart Disease:*
Præcordial dullness on percussion is not permanently *extended*, nor the *apex displaced.*	*Præcordial dullness* in enlargement is permanently *extended*, and the *apex crowded* to the *left.*
The *impulse* in *plethora* is strong *bounding;* in *irritation*, smart *knocking;* in both, widely jarring; in *debility*, small, soft *tapping*, sometimes *hurried.*	The *impulse* in *hypertrophy* is strong, broad *heaving;* in *dilatation*, weak, wide *flapping;* in both together, strong, large *bulging;* in all with *extended dullness.*
The whole *movement* of the heart is more *elastic*, *light*, or *easy.*	The whole *movement* of the heart is more *dead*, *clumsy*, or *labored.*
Functional murmurs are *soft blowing*, *aortic* and *systolic;* are from *anæmia*, and usually with the venous hum in the neck.	*Organic murmurs* are *harsher*, *louder*, often *grating*, *aortic* or *mitral*, *systolic* or *diastolic*, or both, and very rarely with *anæmia* or venous hum.
Functional is more *paroxysmal.*	Organic is more *uniform.*
Active exercise is often well borne, and benefits.	Active exercise always *aggravates.*
The *causes* are mainly *dyspepsy*, *anæmia*, *plethora*, *nervous* or *sexual derangement.*	The most common *causes* are, first, *rheumatism;* and next Bright's disease.

The diagnosis of protracted valvular disease, though liable to a little uncertainty from a few rare imitations of some of its murmurs by merely calcareous roughening of the aorta, is *generally* much more easy than that of recent cases, from less liability to be confused by the friction or churning sounds of acute pericarditis; while with longer duration, as the above list shows, the murmurs, as a rule, become more *distinct* and *harsh.*

We may account for this mainly by the tendency of thickening and other changes consequent on rheumatic endocardial inflammation to become gradually hardened by time, and to degenerate or mingle gradually with either cartilaginous and calcareous, or, to use a more common term, with *ossific deposits.*

Although Dr. Hope discourages the views of Laennec, Bouillaud and others, that the character of murmurs is any certain test of the nature of the morbid change, yet a careful inspection of the above list leads to the view, that, as a rule liable to occasional exceptions, we may adopt the following standard from the very recent observations of M. Forget.*

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* *Pathologie und Therapie.*

Induration.	*Murmur.*
Inflammatory.	Soft.
Fibrous or cartilaginous.	Harsh (*rude.*)
Osseous.	Very harsh.

Diastolic Murmurs, from the want of propelling force, are much more feeble than the systolic or contractile, on the same principle that murmurs sometimes cease altogether in the last stages of heart disease from absolute weakness of the organ.

Pulmonic Valvular Disease only occurs once in hundreds of cases, and, in the very few instances on record, it has sometimes been characterized by a superficial murmur from the middle of the sternum to the junction of the second rib.

Tricuspid Valvular Disease, beside being much less frequent than aortic or mitral, is generally characterized by the *pulsation of the jugulars* and swelling of the veins of the neck being easily recognized. Murmurs are generally absent. In the rare instances in which tricuspid murmurs are present, they are soft—to the middle or right of the sternum, heard lower down than aortic, sometimes even near the xyphoid cartilage.

We have met with pulsation of the jugulars, but never with a tricuspid murmur. Excluding then, in practice, murmurs of the right valves of the heart as almost never occurring, except in the few rare cases when attended by the plainly visible tricuspid pulsation of the jugulars, we are practically narrowed down to those of the valves of the left side of the heart, and the following murmurs, for some of which, for brevity, we coin new terms.

Left, or Ordinary Valvular Murmurs.

STERNAL OR AORTIC.	APEXIAL OR MITRAL.
Are loudest usually over the *right edge* of the sternum, or the junction of the second rib, or more rarely at the *left edge* of the sternum below the third rib.	Are loudest invariably over the apex of the heart, toward the left nipple.
Obstructive, are usually loud with the *first sound* of the heart, are common; and sometimes heard in the carotids.	Obstructive, are always soft, faint, with the *second sound* of the heart, and rare. No mitral murmurs are ever heard in the carotids.

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* *Prècis Théorique et Pratique des Maladies du Cœur.* Strasbourg, 1851.

Regurgitant are with the second sound of the heart,—and common. Both obstructive and regurgitant are with both sounds, or a double sawing murmur.	Regurgitant, are usually distinct, always with the first sound of the heart,—and common. Are more frequently with a purring tremor.
As a class are harsher, and more superficial.	As a class are more liquid, or soft and deep.
Are usually with a harder pulse—when regurgitant often thrilling or wavy, and with a vermicular motion of the superficial arteries.	Are usually with a softer, smaller pulse, often intermittent, and never with a visible waving of the arteries.
Have usually a fresher or more florid face, sometimes with a bright staring eye.	Have usually a more livid and "puffy" face.
Have commonly a stronger impulse.	Have commonly a feebler impulse.

Prognosis.—The greater part of this discussion, treating only of the most propitious class of cases, has necessarily all along involved more or less this topic. Hence we may be brief. If the above list be a fair representation of this class, every feature not usual in all other classes that predominates in this is *favorable*, and every ordinary symptom, complication or variety of valvular disease in general, which is less frequent or wanting in this, is in a corresponding degree *unfavorable.*

Let us make, if possible, a fair estimate of all varieties of valvular disease, usually prevalent. Dr. Barclay, in a very able paper, in the *Medico Chirurgical Transactions*, founded upon careful examinations of seventy-nine cases in St. George's Hospital, infers that rheumatic cardiac inflammation is rather more apt to affect the aortic and mitral valves simultaneously than either singly. We may blend his estimate with others as follows:

VALVES AFFECTED.

Authority.	Aortic and Mitral.	Aortic alone.	Mitral alone.	Total.
Dr. Barclay,	36	26	17	79
Dr. John Reid,	6	17	9	32
M. Forget,	10	9	10	29
	52	52	36	140

These observations were all made in large hospitals, and it must be borne in mind refer mainly to the acute class of cases. Several years later, M. Forget stated, he had largely repeated his researches with about the same numerical results. In 1844, in a paper read before the Royal Academy of Paris, he remarked that in several hundred cases he had met with one instance of tricuspid disease; and Dr. Reid only met one in thirty-three cases, while Dr. Blakiston, by very nice measurements among the operatives of Birmingham, professed to have found fifty-four tricuspid cases to fifty-seven mitral. The truth is probably between these extremes. Not one of Dr. Blakiston's cases lasted three years. The four we have enumerated above have a low average duration. Admitting, then, that the three classes first named are about equal, it follows, that if the aortic are doubly as numerous in the protracted list as either of the others, that *aortic valvular disease in general is the most favorable form.* This rule is modified in a few instances by hypertrophy. Where little or no enlargement is produced by the valvular disease, it is a sign the latter acting, as the cause is slight. Hence the most favorable of all cases, either aortic or mitral, are those with *least* increase in the size of the heart. When hypertrophy is rendered necessary by the extent of the valvular lesion, the heart must be strengthened and enlarged to relieve the embarrassed circulation. It often acts as a compensation and benefit in serious aortic disease, while the increase of force only increases mitral regurgitation and consequent danger of pulmonary congestion. Hence hypertrophy is much better borne in aortic than mitral disease.

The clinical enumeration of valvular affections, as we have before hinted, differs somewhat from the anatomical. The more rare cases of tricuspid disease are commonly easily recognized by the jugular pulsations. But it is almost impossible to distinguish accurately during life, the compound aortic and mitral cases, for the reason that the principal disease and the *murmurs* are generally confined to one, while the other is often but slightly affected and gives no murmur. The seven aortic and mitral cases mentioned in the above table, if judged during life by murmurs alone, would probably have been about equally divided between aortic and mitral. For prognosis at the bed-side living signs only are available; and a nice calculation from the above list will show that this last practical division would not have materially affected the chances of a patient. When the longest average probable limit of the most promising class is only about ten years, the term "favorable" is but relative. With this understanding, without waiting to detail the facts and reasonings on which they depend, we may lay down a few general rules liable to some exceptions, under the simple clinical division indicated.

PROGNOSIS OF VALVULAR DISEASE.

Most Favorable	*Less Favorable.*	*Unfavorable.*
Slight aortic obstruction.	Aortic obstruction and regurgitation, with very large hypertrophy or dilatation.	Mitral obstruction.
Slight stationary mitral regurgitation, with little or no enlargement.	Especially *free* mitral regurgitation, with large hypertrophy, or dilatation.	Tricuspid disease,—especially when combined with left valvular lesions.
Face unaffected, or a little florid.	Face slightly livid.	Face very livid, or *cachectic.*
Freedom from pulmonary congestion, hemorrhage or dropsy.	*Severe* pulmonary congestion, hemorrhage, apoplexy, anemia, dyspepsia, or *dropsy.*	*Brights disease,* (*very*) or enlarged liver.
Avocation healthy, with gentle exercise, without straining or excitement.	Avocation unhealthy, with violent straining or excitement.	Simultaneous aortic and mitral murmurs, or plain signs *during life* of disease of more than the aortic or mitral valves *alone.*

Anatomical Characters and Cardiac Complications.—Ossification, or calcification, as it is latterly termed, occurred in thirty cases examined,—at the aortic valves twelve, and the mitral seven times. Other changes were represented as follows:—"Cartilaginous" aortic, 3; mitral, 1; "thickening" mitral, 4; aortic, 2; "vegetations" aortic, 1; mitral, 1; "induration" aortic, 1; "inversion" aortic, 1. Contractions of the orifices were,—Mitral, 5; pulmonic, 1. All the cases of extensive hypertrophy were, of course, combined with dilatation. "Large hypertrophy" was thus represented,—Aortic alone, 13; aortic and mitral, 5; mitral alone, only 2. "Moderate hypertrophy" stood,—aortic, 2; mitral, 1; tricuspid, 1; pulmonic, 1; extensive "dilatation" aortic, 2; aortic and mitral, 2; mitral, 1.

Right hypertrophy occurred only four times, and right *dilatation* alone only once, and in each there was either mitral contraction, tricuspid regurgitation, or pulmonic constriction. Adhesion of the pericardium, more or less extensive, occurred no less than eight times. Thus it appeared that the most frequent valvular lesion was calciferation, or ossification, which occurred in about two thirds of the cases examined. Dr. Barclay, in his analysis of seventy-nine cases of valvular disease, and one hundred and thirteen instances of atheroma in general, in the *Medico-Chirurgical Transactions*, found that fibrinous deposits occur almost exclusively under thirty-five years of age, while atheroma and ossification as certainly prevail after that period. The average age of the above forty-one cases being thirty-nine years, the prevalence of ossification may be thus explained.

Other Complications.—Dropsy was much the most prevalent in mitral disease, singly or combined; the numbers being,—Mitral, 4; mitral and aortic, 5; tricuspid, 1. Rather singularly, pulmonary hemorrhage occurred in aortic four times, and only once in mitral; while pulmonary inflammation in different forms occurred seven times, mainly in simple or complicated mitral disease.

In more rapidly fatal cases, Dr. Blakiston found that of twenty-seven deaths in valvular disease from pulmonary congestion twenty-four had "incompleteness of the mitral valves." Enlargement of the liver, so frequent in more rapid cases, is only mentioned once. Bright's disease also complicated but a single case just at the close.

Apoplexy occurred once only in aortic disease and palsy three times,—one aortic, one mitral, and one pulmonic. Angina pectoris was one aortic, and one aortic and mitral. The other complications were briefly,—deafness, 1; enlarged spleen, 1; atrophied liver, 1; dyspepsia, 1; scrofula, 1; sciatica, 1.

Results.—Eleven of the forty-one cases were still living, of which seven were aortic and four mitral. The most curious problem was the manner of death. It is well known that a very general impression prevails that the *majority* of cases of disease of the heart die suddenly.

In this enumeration we mean by "sudden death" those examples in which the patient is tolerably comfortable, able to exercise and *leave his room*, and, without any particular warning, falls or faints and expires.

By "gradual sinking," we mean those instances in which pulmonary congestion, dropsy, or some other complication, by degrees weakens and warns the patient till he is *confined to his room*, and sinks more slowly in death.

Of twenty-three cases in which the manner of death is recorded, only seven died "suddenly," while the remaining sixteen cases all "sank gradually." Of the examples of sudden death, there were,—Aortic, 5; and aortic and mitral ("mainly" aortic) 2. The instances of gradual sinking were,—Aortic, 4; mitral, 3; aortic and mitral, 5 (three mainly mitral); mitral and tricuspid, 1; mitral, aortic, and tricuspid, 1; tricuspid, 1; pulmonic, 1. So far as this limited number warrants, we may draw the important practical inference that the proportion of *less than one third died suddenly*—that every one of these sudden deaths was connected more or less with *aortic valvular disease.*

No less than eight cases of the gradual deaths, or two thirds, were more or less connected with *mitral disease.*

We can account for the frequency of the sudden termination of aortic disease, by recollecting the frequency with which it interferes with the functions of the brain, rapidly overcharging with apoplexy, or more frequently cutting off its supply of blood by fainting, from which the patient never recovers. Mitral disease and lesions of the right heart, on the contrary, kill more slowly, by congestion of the lungs and dropsy.

We may lay it down as a rule, perhaps, that while the average chances for longer duration of life are somewhat greater in aortic disease, the probabilities of sudden death are also *increased.*

Treatment.—We cannot close this plain, practical article, without a few thoughts on this topic, so interesting to the earnest practitioner. It was found impossible to compress the details of the management of the above cases, for many years, into any convenient form. So we venture a few comments from general observation. It will be remembered we are considering but a single class of heart affections, for which nature does most, and art the least. And when Nature is doing her work well, the greatest favor is to let her alone. We have managed cases of protracted valvular disease for years, simply by careful regimen. Yet, contingencies sometimes arise when it is necessary to interfere more actively, and we may briefly consider our agents.

Depletion in protracted valvular disease is very rarely allowable, on account of the tendency to sudden death by syncope, or subsequent anemia; general bleeding, often of great service in acute cardiac inflammation, is scarcely ever well borne. We remember an intelligent Vienna friend, who, from long observation in the chest ward of its immense *Algemeine Krankenhaus*, declared that a single injudicious bleeding was often the commencement of the "decline and fall" of cases of valvular disease, leading to dropsy or sudden syncope.

In the apoplexy, pneumonia pleurisy or pulmonary congestion, sometimes arising as secondary affections, if the *impulse* is firm we may deplete cautiously, always preferring, when adequate, cupping or leeching. Dr. Chevers has laid down an excellent rule, that we may observe the same caution in depletion in the secondary inflammations and congestions of heart disease, that we would in those of tubercular consumption. It is sometimes good to deplete locally, while we support generally. Ought we to strive by depletion to diminish the hypertrophy which nature has established to relieve the embarrassed circulation? We believe not—unless danger to life from injury to other organs is actually present, and the strength of the impulse permits. The cases mentioned by Dr. Hope and Laennec as relieved by repeated small bleedings, cupping, and low diet, were probably simple hypertrophy, with little or no valvular disease. Dr. Latham seems to think these were cases of congestion, or "mock hypertrophy." On account of the tendency to syncope in aortic disease, as a general rule, we think that mitral difficulties with a sufficient impulse bear depletion best. On account of the fright and shock of cupping, we prefer the repeated application of two or three leeches at a time over the heart, if necessary, to moderate its violence.

Alteratives.—Can we change or absorb the firm or indurated deposits of valvular disease by mercury, iodide of potassium, or any medication? We think not. Blue mass., taraxicum, and the iodide of potassium guarded with vegetable bitters and tonics, will sometimes relieve, temporarily, the torpid and congested liver, sometimes the result of disease of the heart.*

Counter-irritation.—Slight irritation with croton oil, or the application of a blister, the size of a cent, dressed with belladonna ointment, will sometimes relieve a painful and irritable heart. But there is an objection to powerfully directing the morbid mind of the patient to that spot. An issue upon the arm near the insertion of the detoid will sometimes benefit.

Sedatives.—Digitalis, rather extravagantly termed by Bouillaud the "opium of the heart," in acute inflammation of that organ, must be used with the greatest caution, and watched very closely; in chronic valvular difficulties, on account of the tendency to produce fatal depression and syncope, we prefer, generally, to economize and guard it by the addition of the tincture of henbane, or hop, with preparations of iron or bark. A very good form is, equal parts of tincture of digitalis, hyoscyamus, and iron, of which, half a dram may be taken three times a day. In dropsy, as we know, it operates best as a diuretic in the form of infusion. Like bleeding, we think digitalis better borne in mitral disease, with sufficient impulse, than aortic. Hyoscyamus, conium, and lupuline in different forms, combined with bitters and tonics, have at times been serviceable in quelling the irritable heart. Dr. Walshe speaks very highly of the tranquillizing effects of the eighth of a grain of the extract of aconite three times a day. Great relief is sometimes obtained from the free use of belladonna ointment over the heart three or four times a day. We frequently combine equal parts of the extract with stramonium ointment.

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* The rheumatic muscular pains of the chest, sometimes located about the heart in these cases, are best relieved, so far as we know, by giving four or five grains of the iodine of potassium with ten drops each of the wine of colchicum and the tincture of hyoscyamus, and a drachm of the tincture of cinchona in an aqueous mixture, three times a day, well diluted.

Diuretics.—In the dropsy sometimes supervening, infusion of digitalis, economized and qualified by the tincture of squills, and guarded by bark, iron or other tonics, may be cautiously given. In edema and hydrothorax five grains each of the iodide of potassium and the extract of taraxicum with a drachm of the tincture of bark, in an aqueous mixture, three times a day, well diluted, are very serviceable.

Stimulants.—Persons affected with cardiac affections, are specially subject to attacks of fainting, and palpitation, with a sense of sinking, brought on by a little imprudence in diet, by over exertion or mental excitement. We know of nothing better for these than the ordinary stimulants, Hoffman's anodyne, brandy or ammonia.

Tonics. —Allowing for a proper excess above the natural standard, to carry on the embarrassed circulation, as we have before hinted, we believe that the *impulse is the true pulse of the heart*, giving us in urgent complications, with certain allowances, the best guide for depletion, soothing, or support. Especially when the impulse is feeble, tonics are always required. When it is remembered how large a proportion of the above cases either died suddenly, probably from syncope, or were worn out and debilitated, as described by the phrase " sank gradually; " it will be seen how largely, when any treatment is required, a tonic course should generally prevail in protracted valvular disease. The experiments of Weber and Lombard have shown that strychnia locally applied, produces tonic contraction in the heart of the dead frog. From considerable experience we venture to recommend it—to paraphrase the rather enthusiastic expression we have just quoted, —as the *tonic of the heart.*

It should be given, as in some forms of epilepsy, in very minute doses, long-continued. We prefer giving it in from one fourth to one half the usual quantity, or from the eightieth to the fortieth of a grain, continued for weeks and months. It gives tone to the faltering organ, and especially relieves atonic dyspepsia, often so troublesome, and gives the patient new appetite and spirits. The most convenient and equal form is either a solution of one grain of strychnia to six drachms of water and two drachms of acetic acid, or, what is sometimes better in dyspepsia, from its vegetable bitter, the strong tincture of nux-vomica. Either may be given alone, in doses of from five to fifteen drops three times a day in water. They may be combined with preparations of iron or other tonics. Next to this, especially in anemia, or passive congestion, we trust in preparations of iron. Gentian, columbo, cinchona, and all the usual list may be exhausted if necessary. The avoidance of undue mental excitement or violent muscular exertion, great care in using nutritious easily-digested food, gentle walking, or carriage exercise, are all necessary.

As a rule, we are convinced that protracted valvular disease is commonly over-treated. Like its neighbor, the stomach, the heart is often unnecessarily persecuted. We believe it a safe, honest rule in medicine, and especially in these affections, when *nothing is to be done to do nothing.*

CONCLUSIONS.

The careful consideration of these forty-one cases of the most favorable and protracted examples of different forms of valvular disease of the heart, impartially selected, tends more or less to establish the following recognized, or new propositions:

1. That in protracted valvular diseases, aortic lesions are twice as numerous as any other class; aortic obstruction alone and aortic obstruction with regurgitation nearly equally divided, forming about one half; mitral regurgitation nearly one fourth; aortic and mitral combined, one sixth; and simple or complicated affections of the right valves, about one eighth.

2. That owing to the excess of three males to one female in the large aortic class, two thirds of the whole were males; and that the average age of the whole, rejecting fractions, was thirty-nine years; of the aortic alone, forty years, and of the mitral alone, thirty-two years.

3. That in both ability for exertion and *duration*, the aortic on the whole excelled; each being greatest with either slight aortic obstruction or limited stationary mitral regurgitation, with the *least hypertrophy ;* enlargement being best endured in the aortic class; and that the average duration of the forty-one cases reached the extraordinary term of nine years; nine with aortic obstruction averaging ten and a half years; eight with aortic obstruction and regurgitation, eight and a quarter years; seven of aortic and mitral combined being ten years; and three of right and left valves simultaneously, being four years.

4. That of twenty-nine cases in which the causes were mentioned, twenty, or about two thirds, were from rheumatism, four from pneumonia, or pleurisy, and none from Bright's disease.

5. That the *aortic* differed from the mitral in having, more often, florid face, bright protuberant eye, jerking, thrilling, or firm pulse, precordial bulging and pain, strong impulse, harsh grating or sawing murmurs *always sternal*, more frequent and large hypertrophy, and more cerebral complications; while the *mitral*, on the contrary, were more liable to a livid or puffy face, softer, smaller and more intermittent pulse, feebler impulse, more liquid murmurs *always apexial;* less hypertrophy, and more frequent pulmonary complications and dropsy.

6. That in *Prognosis*, from their presence or absence in these cases, were variously rated, with some exceptions, the following characteristics: *most favorable*, slight *aortic obstruction* or limited stationary mitral regurgitation with little or *no hypertrophy*, a natural or florid face, and a healthy easy avocation; *less favorable*, aortic obstruction and regurgitation, or *free* mitral regurgitation with large hypertrophy, excessive pulmonary congestion or dropsy, and an unhealthy straining or anxious avocation; *unfavorable*, mitral obstruction, tricuspid with left valvular lesions, or disease of any two sets of valves sufficient to produce murmurs from both during life; Bright's kidney, a livid or cachectic face, or enlarged liver.

7. That eleven cases at the time reported were still living; and that of the thirty fatal cases only seven—all purely or mainly aortic—were mentioned as dying "suddenly;" while sixteen, principally mitral,

"sank gradually;" and that in the thirty post-mortem examinations, beginning with the most frequent, there were found the following cardiac pathological changes: hypertrophy with dilatation, ossific deposits or calcification, adherent pericardium, valvular thickening, cartilaginous induration, and vegetations.

8. That in the treatment of *protracted* valvular disease, we must avoid as far as possible thwarting the restorative operations of nature, by depressing with bleeding or digitalis; these, when required by dangerous complications or secondary inflammations, being used cautiously as in pthisis, and on account of less liability to fatal syncope, being best borne in mitral disease with sufficient impulse; that many cases only require careful regimen for years; that allowing a certain excess above the natural standard to carry on the embarrassed circulation, the *impulse is the true pulse of the heart*, indicating, especially when feeble, the need of support; that when any interference is necessary, tonic and soothing remedies are far the most frequently required; and that the most valuable tonics to sustain a failing heart are first, *strychnia* or *nux-vomica*, in from one fourth to one third the usual minute doses long-continued, and next, preparations of iron with mild sedatives and bitters.

PART SECOND.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On the Diagnosis of Tumors within the Cranium.—Dr. Friedreich has recently published a very interesting monograph on this subject, containing the particulars of 45 cases of intracranial tumors, 11 of which were observed by himself; and on these he has founded some valuable remarks as to the mode of their diagnosis. The following is a brief resumé of his observations on these points. He considers

1*st. The General Effects of Intracranial Tumors.*—Various derangements of sensibility occur. One of the most constant of these is *headache*, which is especially frequent in the early stages of the disease. The cephalalgia is remarkable for its persistence and intensity; it may be either continuous or intermittent; and it may be accompanied by *vertigo* and *vomiting*. Its site does not always indicate the place of the new growth. The organs of special sense may be affected; the *sight* becomes impaired on one or both sides; there may be *strabismus;* and the *hearing* generally suffers more or less. The minor grades of *paralysis* are common. The length of interval between the initiatory headache, and the occurrence of the paralysis, constitutes the most characteristic mark of these intracranial tumors. *Convulsions* and *spasmodic conditions* occur in one half of all cases; and the former often assume an epileptic type. The *mind* is always more or less affected; its diseased condition generally commencing with *loss of memory.* All these symptoms are very inconstant and variable; they are also liable to alternate remissions and exacerbations, which probably are due to the occurrence of transitory congestions either of the tumor or the cerebral substance, or perhaps of both together. The course of intracranial tumors is always chronic. Friedreich never new a case to be shorter in duration than 6 weeks, or longer than 14 years.

2*d. The Special or Differential Diagnosis of Intracranial Tumors.*[*]—(*a*) Those situated in the *cerebral hemispheres* (16) are generally accompanied by obstinate headache (14); nausea and vomiting (9); by derangements of the motory functions (14); consisting of more or less extensive paralysis, and of convulsions which assume an epileptiform character. When hemiplegia occurs it is sometimes crossed (*gekreuzt*), and sometimes not; but it constantly occurs on the affected side. Derangements of the special senses are common (10), especially of sight (7); and intelligence is often impaired (11). In a few exceptional cases there are no headache or alterations of the motor functions.

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[*] The numbers placed above in brackets refer to the number of cases, among those examined by Friedreich, in which the particular symptoms were present. —*Translator.*

(*b*) *Tumors of the base of the cranium in the neighborhood of the pons*, occasion the following symptoms:—(9) headache, (8) almost always frontal; impairment of vision (7), commonly also of hearing and taste (5), and in some cases (3) of smell. All these symptoms, due to loss of power of the facial nerves, occur on the same side as the tumor; but paralysis of the extremities, when it occurs, affects the opposite side of the body. *Complete* hemiplegia and paraplegia are not very common; and convulsions occur less frequently than with the former class of tumors, and are not epileptiform. An important sign of these tumors is afforded by the great multiplicity of the existing sensorial disturbances, and the tendency of the optical derangement to become bilateral. The mind is sometimes affected (5).

3*d*. *Tumors of the Pituitary Region.*—Friedreich only saw 1 case of this. There was frequent frontal headache, often with pain in the orbit; and double amaurosis. There is rarely any disturbance of the motor functions.

4th. Tumors of the anterior part of the Base of the Brain.—Two cases were examined. The symptoms resemble those just mentioned.

5th. Tumors of the Peduncles of the Cerebrum and Cerebellum.—Paralysis of the face and extremities, occurring on the side opposite to that on which the tumor was situated, was observed in 3 cases. This makes tumors thus situated resemble those of the hemispheres. Complicated derangements of the nerves of special sense and of the face (as the oculo-motor and trifacial), were seen in two cases. This, on the other hand, approximates these tumors to those of the base.

(*f.*) *Tumors of the Cerebellum* (8) had the following signs:—violent cephalalgia (7), often intermittent, and combined with vomiting (4); and situated in the occipital region (4). *Occipital* headache may be considered to be pathognomonic here, as it occurs in the case of no other intracranial tumors. Pain at the nape of the neck, increased by pressure, may exist. In one case there were no peculiar symptoms; and in none of the cases of tumors of the cerebellum were the generative functions at all affected.

(*g.*) *Tumors of complex situation.*—Correct diagnosis is here impossible.—*Beiträge zur Lehre von dem Geschwulsten innerhalb der Schädelhöhle. Würzburg*, 1853.—*Edinburgh Monthly Journal, March*, 1855.

Non-Identity of Typhus and Typhoid Fever.—Although typhus and typhoid fevers resemble each other very much in their external appearances, Professor Forget, of Strasburg, believes that they are clinically and essentially different in their nature. They are anatomically different; they are not equally frequent in their occurrence; and typhoid fever may arise from many causes, quite irrespective of infection. In follicular enteritis, the typhoid condition is not constantly present, and it is usually secondary; while in typhus, the prostration and stupor attending its invasion indicate a powerful intoxicating principle, acting primarily as a poison, which is not usual at the commencement of the typhoid state. Gastro-intestinal symptoms are more constant and primitive in typhoid than in typhus fever; for in it they are occasionally found existing alone; and we very rarely see cases of follicular enteritis which do not present the rough (*saburral*), punctulated, and rosy tongue; also *gargouillement* and pain in the right iliac region, and either diarrhœa or constipation. Though other symptoms may coexist with them, they are never wholly obscured. In typhus again, especially at its outset, the tongue is frequently moist, smooth, and white; meteorism and abdominal pain are absent, and there is no derangement of the process of defecation. If we except the rosy, lenticular spots peculiar to typhoid fever, and which constitute, according to M. Forget, its most constant differential sign, there are no symptoms in general connected with either malady which are not purely accessory and inconstant. Typhoid fever is usually slow and gradual in its course, and in simple, uncomplicated cases, its evolution is in exact ratio to the development of the intestinal lesion. In typhus, on the other hand, the disease is very violent at first, and afterward becomes suddenly or alternately better or worse, and often in those cases which appear the most unfavorable, it advances rapidly and spontaneously to a favorable termination. Ataxia characterizes it more than it does typhoid fever.

As regards the treatment of the two diseases, Professor Forget says that while, in typhoid fever, this must always be adapted to the peculiarities of each particular case, special attention must be paid to the intestinal ulcerations which are present during its course, and that all those medicines should be avoided which are calculated to aggravate these lesions of the alimentary canal. There is no need for this caution in cases of pure typhus.—*Gaz. Med. de Paris.*

The Cracked-pot Sound not Always Indicative of a Cavern. By Dr. Bennett.—According to Skoda, "the cracked-pot sound is heard in the thorax, over tolerably large and superficially situated cavities which contain air, and communicate with the bronchial tubes. When the percussion is forcible, or the thoracic walls flexible, the cavity is compressed at each stroke, and a portion of air suddenly driven out of it into the bronchial tubes; this hissing murmur, caused by the escaping air, is mixed up with the ordinary percussion sound of cavities, and this compound represents the cracked-pot sound." But the observation made in the case of M'Kay, has satisfied me that occasionally distinct cracked-pot sound may be elicited over condensed lung, without any cavity whatever. In referring to an excellent paper on this subject by Dr. Markham, I find that on one occasion both he and Dr. Sibson have noticed this phenomenon, over the upper portion of a lung which was afterward shown to be gorged with blood and serum, though still retaining some portion of air. It would seem, from what has been said by Skoda, Stokes, Walshe, as well as by Dr. Markham, that a peculiar tympanitic sound may be heard over collapsed or condensed lungs, when covered or mingled with a certain amount of air. For instance, when in cases of pleuritic exudation, air is effused into the pleura, a few hours before death, when in certain cases of pneumonia there is also emphysema, etc. In the case I have alluded to, these conditions were so far fulfilled, that the tubercular mass described was surrounded by spongy lung full of air. At all events, it must be evident that the physical conditions on which this peculiar sound depends, require more careful study, and that our ideas as to its necessary connection with a cavity, must undergo modification.—*Monthly Jour.*

Phosphorus in Paraplegia.—I have given phosphorus in seven cases of paraplegia from disease of the spinal cord, in the form of phosphuretted oil (4 gr. of phosphorus dissolved in ℥j of olive oil.) In none of these cases have I been able to satisfy myself that any improvement was occasioned. I commenced with three drops a day, which were afterward cautiously increased to ten, and in one case to fifteen drops. But these large doses soon induced violent nausea and vomiting, and, after a short suspension of the remedy, I have continued it in doses of three drops.

In the case of chronic myelitis, which took ten and fifteen drops, the phosphorus was excreted by the lungs, as the breath smelt strongly of the drug, but was not phosphorescent at night,—a phenomenon which has been seen by some physicians who have employed it. In another case, that of a delicate woman, with probably congestion of the cord, a large amount of phosphate was passed in the urine, presenting, under the microscope, beautiful feathery crystals. The dose of the oil, therapeutically, ought never to exceed five drops, and even this amount cannot be administered for any length of time without deranging the stomach.

What is Pyœmia?—Dr. Bennett remarks (*Monthly Journal*) upon a case of Multiple Abscess following Articular Rheumatism:—If by pyœmia be understood that pus, as pus, enters the blood,—in other words, that the corpuscles of that fluid mingle and circulate with those of the blood,—the idea is erroneous. Such mingling of pus cells produce no such effects as are witnessed in these cases. In leucocythemia we observe the blood to be loaded with corpuscles, which, in all their physical characters, are identical with those of pus, and yet none of the supposed obstructions in the smaller vessels, and no multiple abscesses, ever occur. Nor when healthy pus is injected into the veins of a living animal, do these results take place, as has been proved by numerous experimenters, and of which I satisfied myself by some careful experiments, performed with Professor Barlow, of the Veterinary College of this city. But if by pyœmia be understood a morbid poison generated in pus, which, on its absorption, taints the system and leads to the secondary abscesses, then the idea seems to me to be correct. I think, however, it would be better, with Boyer, Bonnet, Darcet, and Berard, to speak rather of a purulent infection, than of a purulent absorption; for direct experiments prove that putrid pus produces the effect that healthy pus does not. Besides, we know that morbid pus of various kinds, when absorbed into the system, such as that of small-pox, glanders, syphilis, etc., not only induces the constitutional fever, but tends to the production of secondary collections of pus, whereby the poison is supposed to be eliminated. On the whole, a careful consideration of this difficult subject has led me to the conclusion that such cases as the one now recorded, are not owing to simple admixture of pus with the blood, or to phlebitis, but to the presence of a peculiar poison which contaminates the system.

Tracheotomy in Childhood.—M. Guersant remarks upon the increasing numbers in whom he is called upon to perform this operation at the Hôspital des Enfans Malades. Thus, in 1850 there were 10 operations; in 1851, 25; in 1852, 30; and in 1853, 60. M. Guersant concludes from these facts that croup is on the increase in Paris; a conclusion doubted by M. Denonvilliers, who ascribes these increasing numbers to the greater confidence of the public in the resources of surgery in such cases. As regards the success of the operation, M. Guersant remarks that out of 161 cases in which it was performed there were 36 cures; and it must be borne in mind that it was only performed as a last resource when asphyxia was considered to be imminent. The rest of the treatment was much the same as is usual in this country. M. Guersant also frequently employed cauterization of the larynx, but considers that this treatment does not deserve the credit it has attained.

M. Archambault directs attention to a peculiar phenomenon which frequently attends on recovery in those cases of croup in which tracheotomy is performed. As soon as the glottis is free from false membranes, it is observed that the infant, in swallowing, is extremely apt to be distressed by the passage of fluid matters into the larynx. This difficulty of deglutition has occurred in the practice both of M. Trousseau and of M. Guersant. The former attempts to remove it by giving only solid or semi-solid food: the latter proposes in extreme cases to pass the œsophagus-tube. M. Archambault recommends a simpler method. He removes the canula, and applies the thumb very firmly over the opening. When the child has made several respirations, and these have become regular and natural, he allows it to drink, after directing its attention to the necessity of caution. In this way drink can-be taken. M. Archambault considers that this difficulty of deglutition depends on an impaired sensibility of the glottis, and a want of harmony between the act of deglutition and respiration, owing to the artificial manner in which the latter has been effected through the canula. He has not witnessed this symptom except when the respiration was notably accelerated.—*L' Union Médicale.*

Treatment of Salivary Fistula.—M. **Rodolfi** has devised, not a new method, but a new process for the cure of salivary fistula, which merits by its simplicity and success precedence over all other means. A man, æt. 28, robust, was operated upon in July, 1853, for a cyst situated upon the duct of steno. Three days after the operation there was an escape of saliva from the wound. Methodical compression with compresses and bandages was resorted to, which gave rise to a painful tumor on the parotid region, and had to be discontinued. The twisted suture was then used on a silver needle; but on the fourth day the saliva again escaped. A steel spring was next used to maintain the lips of the wound in apposition; this the patient could not endure. Finally collodion was applied to the fistula, two drops being used, which remained after the evaporation of the ether like an artificial skin, and by its contraction approximated the edges of the opening, and prevented the escape of a drop of fluid. The following day an additional coating was applied, and on the eighth day the cure was completed.—*Gaz. Med.*

Tuberculous Testicle treated with the Paste of Chloride of Zinc.—By Dr. **Philippeaux**, of Lyons.—With the exception of cancer, it is in the different forms of surgical diseases due to a scrofulous constitution that the paste of the chloride of zinc appears to produce the most favorable results. Caustics may be employed in lesions of this nature to fulfill two distinct indications:—1, destruction of altered tissue; 2, to give to subjacent parts sufficient vitality to undergo cicatrization. This latter indication is without contradiction the most important in the local treatment of alterations of a scrofulous nature, and it is well known how difficult it is to overcome that tendency to immobility which is characteristic of these affections. The principal circumstances in which cauterization by chloride of zinc has appeared to M. Bonnet to produce good results are,—superficial tuberculous glands, old fistulous tracts, fungous ulcerations, sloughing of skin consequent upon cold abscesses, superficial caries, &c. In cases of this kind superficial cauterizations more frequently produce a sufficient degree of local reaction; but if the tissues are profoundly altered it is often necessary to act with more energy. The following observations, to which many others might be added, afford an example of the happiest results which follow cauterization in cases of this nature:—

In a young man, æt. 21, of a highly scrofulous constitution, the right testicle presented the following alterations:—its size is nearly that of the fist; it is hard, and presents at different points an indistinct fluctuation; three fistulous tracts, which have opened within two months, discharge grumous matter. The disease is of six months duration, the tumor being developed without pain. On the 12th of April, 1851, M. Bonnet commenced the treatment by introducing into the fistulous tract a bit of chloride of zinc, which gave rise to extensive sloughing. On the separation of the eschar, another application of paste was made in the cavity produced by the caustic, which extended even into the substance of the testicle.

By this second application the three points first attacked are united into one deeply-sloughing surface; it then became easy, by removal of the eschar, and successive applications of caustic, to accomplish the total destruction of the tumor. Three aplications of the caustic were still necessary, and, like the two first, gave rise to but a moderate degree of pain. The spontaneous falling of the last eschar took place April 25th; the wound resulting was completely closed on the 25th of May, the forty-third day after the first cauterization. No accident interrupted the treatment.

Paralysis of the Portio Dura from Tertiary Syphilis.—M. Roquette, a practitioner at Nantes, relates an example of this accident, the second which he has met with in the course of three years' experience of syphilitic affections. The first case was that of an old soldier, and was at once correctly interpreted. The second, however, in the person of a captain of a coasting vessel, was in the first instance treated unsuccessfully by a practitioner who, misinformed by the patient as to the venereal antecedents and accompaniments, ascribed the disease to one of its common causes, viz., cold, and treated it by local counter-irritation in front of the ear, purgatives, and leeches to the anus. The treatment of M. Roquette was by larger doses (ʒi per diem) of iodide of potassium, and a blister behind the ear, dressed with mercurial ointment; the cure was complete within six weeks.—*L' Union Medicale.*

Vinegar in Scabies.—Professor Le Cœur, of Caen, recommends for the cure of itch, forcible frictions of the parts affected, with a hard sponge, soaked in good vinegar, performed thrice daily so as to penetrate the skin and rupture the vesicles. He has tried this treatment with the most complete success in ten cases, the average length of the treatment being less than five days. He thinks this treatment preferable to all others on account of its speedy action—its inexpensive nature—its freedom from unpleasant odors, and its easy application. He suggests that similar results might probably be obtained by frictions with the mineral acids dissolved in water.—*Gaz. des Hop.*

Quinine in Phthisis.—Dr. Muntendam, a Dutch physician, has just published a paper to show that, from his experience in twenty-two cases, sulphate of quinine, given along with acetate of morphia, or even alone, is capable of prolonging the life of the patient in many cases of phthisis, and that it may even effect a cure in those cases in which a tubercular deposition has just commenced, especially in married women and children. He alleges that, when given continuously in small doses, it does not cause dyspnœa, diarrhœa, headache, or any disagreeable effects; and he believes that in very many, but not in all cases of phthisis, it should be ranked as one of the best remedies for the disease.—*Nederlandsch Lancet, and Gaz. des Hopit.*

PART THIRD.

AMERICAN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

On the Differential Diagnosis of Syphilitic and Non-Syphilitic Orchitis. By THOS M. MARKOE, M. D., Surgeon to N. Y. Hospital. —In order to contrast the two affections more fully, I will give the main symptoms in each, so that the data for a differential diagnosis may be compared at a glance. Thus, the—

Syphilitic form,	*Non-Syphilitic form,*
1. Begins in testicle.	1. Begins in epididymitis.
2. Smooth and regular.	2. Irregular and knobbed.
3. Hard and painless.	3. Less hard and more painful.
4. Scrotum unaffected.	4. Scrotum early adherent.
5. Both testicles involved.	5. Usually one only.
6. Hydrocele very common.	6. Hydrocele rare.
7. No suppuration or fungus.	7. Abscess or fungus common.
8. No glandular affection.	8. Glands of groin enlarged.
9. Venereal appetite gone.	9. Not ascertained.
10. Treatment successful.	10. Treatment unsatisfactory.

To complete the differential history of these two diseases, we may say that the syphilitic testicle tends finally, if not early cured, to produce atrophy of the organ; while in the chronic simple orchitis, the tendency is to the disorganization of the testicle by abscesses, sinuses, or its entire protrusion in the shape of the fungous testis. Lastly, the pathological anatomy of the syphilitic disease is found to be, according to Ricord, an effusion and partial organization of fibrine on the fibrous surfaces and compartments of the organ; while, according to Curling, there is always found in the simple chronic orchitis, an abundance of the yellow, gelatinous, unorganized material, both within and without the seminiferous tubes, which he considers as the peculiar pathological element of the disease, and which is undoubtedly fibrine in an aplastic or unorganizable condition.—*N. Y. Med. Times.*

Gastrotomy for the removal of a Leaden Bar.—By T. B. NEAL, M. D., of Iowa.—The *Medical Examiner* contains a full report of the following case:—A man, æt. twenty-seven, while intoxicated, attempted, on a wager, to swallow a leaden bar 10 inches long and ¾ of an inch thick, weighing 1 pound. For three days after accomplishing his feat, he worked in a pork house, with but little inconvenience. On the third day he was seized with great pain in the stomach. On the fourth day he walked six miles to consult a physician. On the tenth day he labored under symptoms of gastritis, and the operation of gastrotomy was performed by Dr. Bell, of Wapello, after the administration of chloroform, by making an incision through the walls of the abdomen, from the umbilicus to the false ribs, four inches in length and two inches to the left of the median line. The peritoneum being divided, Dr. Bell introduced his hand, and pushing back the protruding intestines, found that the bar of lead was nearly perpendicular, the upper end inclining a little to the left. The bar was pushed up, until the lower end came opposite the abdominal opening. It was then seized, and an incision made in the walls of the stomach, just large enough to admit of its extraction by means of forceps. The contraction of the muscular coat of the stomach caused the incision in the organ to close perfectly and without trouble. The external wound was stitched, and a compress applied. For the ensuing three days the system of the patient was kept under the influence of opium, and nothing but mucilaginous drinks, in small quantities, allowed as diet. He recovered as well as a patient does of uncomplicated gastritis. One month after the operation he had resumed his work.

Removal of the entire Body of the Uterus by the large Abdominal Section.—By Prof. E. R. Peaslee, M.D.—In the *American Jour. of Med. Sci.* for April we find reported a case of the removal of the whole of the body of the uterus by large abdominal incision. The patient died on the fifth day after the operation, from gangrene produced by strangulation of two hernial protrusions. The operation was undertaken for the removal of an ovarian tumor, the diagnosis of which was, to all appearances, very clearly made out. The mistake in the diagnosis, which the subsequent steps of the operation showed, was most certainly not a culpable one. On examination the tumor was found to be a fibrous growth, already softening and degenerating in its central portions. "It must have originated at the right side of the fundus of the uterus, and in its substance, though near its surface. Death, which occurred on the fifth day after the operation, appears to have been produced, not from the removal of the uterus, but from the complications of two hernial protrusions,—a small one near the lower end of the incision, and a larger near the upper end—produced by coughing and retching. These hernial protrusions had occurred the morning after the operation, in the absence of Dr. P.; and when examined they were livid, and covered with plastic exudation. A portion of the sutures were removed, and they were returned. The post-mortem appearances went to show that the gangrene extended from the portion of the bowels implicated in the herniæ, and thence to the peritoneum.

Self-adjusting Stethoscope of G. P. Cammann, M. D., of New York.—The stethoscope of Dr. Cammann presents an objective end, made of ebony, the extremity of which is about two inches in diameter, two tubes composed of gum elastic and metallic wire, two metallic tubes of German silver, two ivory knobs at the aural extremity, and a movable elastic spring, so arranged as to adjust it, and keep it in its proper position. The bell-like expansion of the objective extremity is two and a half inches in diameter, with a convolvulus excavation, gently curving outward, to present a rounded edge to the chest, in order to prevent causing pain to the patient. The bore of the instrument is two and a half lines in diameter, care being taken to have it made smooth and even. The tubes are made of German silver, with a double curve towards the aural extremities, which curves require to be constructed with great care, so that the ivory knobs may rest closely upon the external openings of the ears.* When applied, it is necessary that the orifices of the knobs should point upward. Some of the instruments are constructed with a spiral, and others with an elastic spring, as shown by the plate. Some of them are so arranged that they can be disjointed, to render them more portable.

One point, heretofore *sub judice*, is settled by this instrument, viz., that the sound is conducted entirely through the air, and not at all through the media, as these were, for experiment's sake, changed nine or more times, without affecting in the least the intensity of the conducted sound. On making the objective end solid, all sound was lost.

The advantages claimed for the instrument of Dr. Cammann, are:—

1. That being applied, it adjusts itself closely to both ears, excluding all external sound.
2. It leaves both hands of the examiner free.
3. It gives sounds pure, and greatly increased in intensity, though differing in quality from those hitherto afforded by auscultation, the pitch being lower. This intensity is produced by both ears being acted upon at once, by the ear-pieces of the instrument fitting closely into the meatus of both ears, and by the smoothness and careful construction of the bore of the stethoscope as to curves, etc., according to the law of reflected sound.
4. Sounds not heard through the instrument in common use can be detected by this.
5. Sounds which are doubtful by ordinary instruments are made perfectly certain. Even when disease is seated in the central part of the lungs, they can be detected, when the ordinary stethoscope will fail to render them recognizable. The same advantages are obtained in examining the morbid sounds of the heart.

The great increase of intensity of sound by this instrument renders it valuable to those with impaired hearing.

In the use of this stethoscope it is necessary that the chest should be uncovered, to prevent all friction between it and the clothes; otherwise the sound thus generated is conducted with such intensity as to embarrass the examiner. A short practice may be required to become familiar with it, in consequence of the increased intensity of the sounds produced by it, and the difference between them and those afforded by ordinary auscultation. Many of the recognized physical signs of thoracic disease will be so modified as to be new to the examiner, but a short experience will enable him to appreciate them, and give them their true value.—*N. Y. Med. Times.*

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* If any peculiarity of formation of the head of the observer prevents their thus resting, so as to exclude all external sounds, they should be carefully bent to give the required curve.

Paste of Allium Cepa as a Remedy for Epistaxis.—B. Rorer, M. D., of Germantown, has favored us with a communication in which he extols the efficacy of a paste made of the *allium cepa* in arresting atonic hemorrhage from the Schneiderian membrane.

The directions for making the paste are as follows:—

"Take the inner portions of the bulb of the *A. cepa*, or common onion, cut it fine, mix it with an equal portion of flour or bread crumbs, adding a sufficient quantity of strong vinegar to make a consistent paste." This paste is applied by pressing it into the nostril with the ball of the thumb till no more can be introduced, when the plug is to be secured by a bandage. Several cases are detailed illustrative of its efficacy, one of which we shall quote.

G. F., aged 44 years, a baker, was attacked, March 6th, 1847, with epistaxis without any premonition, while attending to his heated oven, and had lost, he stated, ten or twelve ounces of blood before Dr. Rorer saw him. Dr. R. had him placed in a cool room, washed his face and head with iced water, and injected the same into his nares, and afterwards solutions of alum and of the metallic salts. Alum and finely-powdered galls were then applied by means of a quill, and lastly plugging with lint wet with astringent solutions resorted to. At the same time twenty drops of muriated tincture of iron were given every two hours,—all without any avail. At this time a German named Seibert advised the onion paste, which was used with the effect of completely arresting the hemorrhage.—*American Jour. of Med. Sci.*

Consumption Hospital.—At the recent session of our State Legislature, a bill was passed chartering a Hospital for Consumption, in this city. Amongst the names of the trustees we notice some of our most influential citizens and distinguished physicians. This is an institution greatly needed in this community. We trust that measures will at once be taken to carry out the provisions of the charter. The passage of the bill was mainly due to the efforts of Hon. Geo. W. Bradford, a distinguished physician, and senator from the Cortland district.

☞ *Notice to Readers and Correspondents.* The unusual length of the Original Communications in this Number has crowded out the review promised, as also several communications, bibliographical notices, our usual variety of Foreign and American Selections, several editorial notices, etc.

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S. S. PURPLE, M.D., AND STEPHEN SMITH, M.D.

Verumque est, ad ipsam curandi rationem nihil, plus conferre, quam experientiam.
CELSUS.

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THE NEW-YORK
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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*On the Climate of the Valley of the Sacramento, California.*

By F. W. HATCH, M.D., of Sacramento City.

ON a former occasion, allusion was briefly made to a few of the peculiarities of the climate of California, and the diseases referable to them. Some of these deserve a more particular notice, and others, which the space then allotted to us excluded, are full of interest to the physician, and possess an important bearing upon the sanatory condition of the inhabitants.

A summary statement of the Meteorology of a portion of the State,—an abstract of the observations of the past year,—may likewise prove useful for general reference, and afford, at a glance, a more accurate knowledge of the true characters of the climate, than could be effected by the most elaborate review.

Much has been written latterly in elucidation of the climatic features prevailing in this State, with various degrees of correctness, and yet, it would seem that erroneous views are still conjectured of many of its most important and interesting peculiarities. Indeed, it is not without a show of reason, that some incredulity should be entertained by those unacquainted with the subject, as to the ingenuousness of some of the statements which have been made; for, so beautiful is the picture, that what is in reality but a faithful portraiture, appears like a sketch of fancy or the richly-embellished vision of the enthusiast.

It is not the purpose of the present article to present a detailed view of the climate of California. A general examination and analysis of the meteorological observations in our possession, pertaining to the locality of Sacramento, their comparison, and the deductions growing out of the results thus obtained, together with such therapeutical inferences as suggest themselves, having a more or less intimate relation to the climate, will alone be attempted.

The location of the City of Sacramento, in the valley of the same name, has heretofore been described in an article upon this subject, as well as a general yet sufficiently succinct account of the topography of the valley. No further allusion is required at this time.

It is scarcely possible, in a series of observations extending through a single year, to afford an infallible, or absolutely exact view of a climate. Seasons are frequently so variant, and departures from a uniform standard so great in any single, isolated year, that perfect accuracy is not attainable. In general, however, the mean temperatures of a place do not vary much; and though the mean of a series of observations, extended through a large number of years, might alone satisfy the demands of an exact and rigid science, the approximation will be sufficiently near to subserve the purposes of the present communication.

The meteorological observations from which the following tables are deduced, were taken by myself, and with such precautions as seemed best calculated to obviate the errors which too often creep in to destroy the accuracy of thermometric investigations. We shall not attempt a thorough and lengthy analysis of all the meteorological elements of which these observations are comprised. A general summary will be presented, with such explanatory remarks and reflections as shall seem best adapted to subserve the purposes of the present undertaking, to wit, the proper appreciation of the climatic features of a portion of the valley of the Sacramento.

The subject is one full of interest,—the topic embraced in it is attractive in almost every aspect; and as the eye delights to dwell upon the rich and beautiful landscape spread out before it in the gorgeous magnificence of nature's own device, so the mind of the Californian is wont to regard with peculiar pleasure the real charms, the intrinsic loveliness of the climate of the State, and linger with the enthusiasm of fascination upon the pleasing reflections with which its contemplation is associated. Without attempting to invest the subject with the extravagant embellishments of fancy, it shall simply be our object to lay before the reader the outlines of the climate for the past year, and leave the groundwork to be supplied by himself.

The table on pp. 12 and 13 exhibits the mean monthly results of the observations from April, 1854, to March, 1855, inclusive. A few of the more striking peculiarities of this table require a casual notice.

The highest mean monthly temperature for the year, calculated from four daily observations, viz., at sunrise, meridian, sunset, and 10 P. M., was 75°70, in July; the mean maximum temperature of the same month having been 91°32, and the extreme maximum 103°. July therefore is shown to have been the hottest month in the year. The coldest month was January; the mean of four daily observations having been 45°23, the mean maximum temperature 53°88, and the extreme maximum 68°. The extreme range of the means of these two months, therefore, was 30°47, and between the absolute extremes of the year, 79°; or from 103° in July to 24° in January.

Next to July, in exaltation of temperature, was August,—the mean monthly temperature being 70°33, or a little more than 5° less than July. In the extreme of heat, there was a difference of but one degree of Fahr.,—the maximum of August having been 102°.

METEOROLOGICAL OBSERVATIONS FOR SACRAMENTO, Cal., from April, 1854, to March, 1855, inclusive; Lat. 38°34′40″ N., Long. 121°40′5″ W.

1854	THERMOMETER. Four Daily Observations.					EXTERNAL THERMOMETER. Extremes of Four Daily Observ.								BAROMETER.				ATTACHED THERMOMETER.			THERMOMETROGRAPH.							HYGROMETER.				
						Maximum.				Minimum.														Extremes of Month.				Dew Point		Moisture in air.		
	Sunrise.	Meridian.	Sunset.	10 P. M.	Monthly mean.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	10 P. M.	Monthly mean.	Sunrise.	Meridian.	10 P. M.	Mean max.	Mean min.	Mean range.	Maximum	Date.	Minimum.	Date.	Maximum	Minimum.	Maximum	Minimum.	Mean.
April	58·20	69·12	62·38	57·96	60·66	62	79	74	68	47	54	53	50											84	16th	47	9th, 22d 26th					
May	50·11	69·34	64·38	57·66	60·48	58	79	76·50	69	42	55	51	47	29·98	29·94	29·92	29·94	66·38	69·80	69·33	72·25	49·93	22·32	81	17th	42	17th	58·50	32	·683	·295	* ·460
June	54·04	76·03	72·05	65·33	66·86	66	87	84	78	46	67	62	50	29·96	29·95	29·93	29·94	66·70	75.00	72·70	81·05	54·04	26·97	95·50	10th	46	2d	65	41	·802	·354	·537
July	61·25	88·74	80·17	74·88	75·70	73	97·50	92	83	51·50	72	67	61	29·90	29·95	29·92	29·92	63·00	63·00	80·87	91·32	61·25	30·22	103	13th	51·50	20th	68·50	43	·849	·243	·507
Aug.	55·90	81·90	76·25	67·25	70·33	69	96	95	84	49·50	72	68	58	29·95	29·95	29·93	29·94	73·42	75·35	77·52	87·00	55·90	31·09	102	16th	49·50	2d	63	45	·609	·254	·460
Sept.	51·38	76·33	70·63	62·70	65·26	61	86	87	72	47	68	64	55	29·93	29·97	29·92	29·94	68·63	70·73	73·33	91·85	51·38	29·83	94	14th	47	16th	60·50	44	·691	·252	·493
Oct.	51·32	71·03	68·25	59·67	62·56	62	88	86	75	46	62	60	52	30·00	30·00	30·00	30·00	68·83	70·83	73·00	73·83	52·38	21·54	93	2d	46	14th & 27th	63	31	·905	·260	·568
Nov.	44·21	65·25	63·13	54·53	56·78	52	70	69	61	39·50	58	57	46	30·09	30·06	30·07	30·07	62·16	65·20	65·80	68·13	44·21	23·85	74	1st & 6th	39·50	10th	50·97	26·96	·686	·306	·494
Dec.	37·25	55·12	58·90	47·41	48·42	52·50	56	54	57	28	50	50	36	30.16	30·16	30·13	30·15	56·03	62·58	61·54	59·04	37·25	21·79	69	1st & 17th	28	30th	48	25·9	·813	·293	·589
1855																																
Jany.	38·32	49·55	49·19	43·06	45·23	49	63	64	55	24	39	38	32	30·07	30·07	30·06	30·07	31·20	53·85	53·80	53·88	38·32	17·17	68	31st	24	6th	49·9	25·9	·916	·308	·634
Febr.	42·35	60·10	57·57	51·60	52·90	54	67	64	59	32	53	48	41	30·05	30·05	30·04	30·05	56·35	58·60	59·28	63·02	42·35	20·66	71	16th	32	21st & 24th	58·8	27	·959	·323	·559
Mar.	48·59	63·80	59·25	54·84	56·66	57	78	69	63	37	50	46	42	30·01	30·01	29·96	29·99	61·64	62·48	63·00	66·50	48·60	18·03	76	25th	37	17th	60·4	36	·939	·437	·633

* Last eight days of May.

METEOROLOGICAL OBSERVATIONS FOR SACRAMENTO, Cal., from April, 1854, to March, 1855, inclusive; Lat. 38°34′40″ N., Long. 121°40′5″ W.—[*Continued.*

	PSYCHROMETER.						WIND. Four Daily Observations.—Direction.																FORCE OF WIND.								WEATHER.													
	5 to 6½ AM		3 to 3½ PM		10 P. M.		N. to E.				E. to S.				S. to W.				W. to N.				Sensible to Mod.				Brisk to Violent.				Clear or mostly so.				Cloudy or mostly.						Rain.		Fogs.	
1854	Mean dry bulb.	Mean wet bulb.	Mean dry bulb.	Mean wet bulb.	Mean dry bulb.	Mean wet bulb.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Sunrise.	Meridian.	Sunset.	10 P. M.	Clear all day.	Cloudy all day.	Days.	Inches.	Days.	Inches.
April							5	4	5	3	6	1	4	3	9	12	12	15	10	12	10	10									14	19	17	21	16	11	13	9	10	3	11			
May							2	1	3	1	20	11	11	13	5	12	14	14	4	7	3	3	20	22	19	19	11	9	12	12	20	24	15	16	11	7	16	15	17	3	4			
June							0	0	0	0	21	10	21	20	7	10	7	9	2	10	2	1	26	23	24	28	4	7	6	2	19	25	26	28	11	5	4	2	19	2	3	0·50	4	
July							0	0	0	0	20	9	19	20	8	13	10	9	3	9	2	2	28	28	27	26	3	3	4	5	26	27	30	30	5	4	1	1	23	0	0		0	
Aug.	58·61	54·54	88·90	70·64	67·38	59·25	0	0	0	0	25	12	17	16	5	14	12	15	1	5	2	0	27	24	25	26	4	7	6	5	28	30	29	30	8	1	2	1	28	0	1		2	
Sept.	53·86	50·66	80·16	64·96	62·16	56·16	0	1	0	0	21	15	17	20	9	11	11	10	0	8	2	0	27	25	25	22	3	5	5	8	25	28	26	30	5	2	4	0	18	0	1	sp'kl	2	
Oct.	52·64	49·41	73·19	60·03	60·19	54·99	0	2	0	0	20	16	16	14	5	6	7	12	6	7	8	5	28	26	28	28	3	5	3	3	17	20	16	25	14	11	15	6	8	4	10	1·03	5	
Nov.	45·56	43·26	67·56	56·50	54·53	49·92	3	3	4	3	9	10	7	9	4	2	5	6	14	15	14	12	28	26	27	29	2	4	3	1	24	27	25	27	6	3	5	3	20	2	4	0·67	7	0·0163
Dec.	38·77	36·51	58·45	49·80	47·32	44·19	0	4	1	1	18	9	15	15	1	3	2	2	17	15	13	13	28	28	28	29	3	8	3	2	18	19	22	23	13	12	9	8	11	5	5	2·20	11	0·1243
1855																																												
Jany.	38·84	37·13	52·87	46·51	42·97	40·51	2	10	9	2	10	10	12	16	7	3	3	2	12	8	7	11	28	25	26	28	1	4	3	1	10	14	13	17	21	17	17	13	7	11	10	1·40	12	0·081
Febr.	45·25	42·53	61·07	52·42	51·85	47·60	3	2	6	7	8	6	5	4	5	10	9	6	12	10	8	11	24	21	23	23	4	7	5	5	17	14	16	18	11	14	12	10	13	7	12	4·21	3	
Mar	50·90	48·83	65·00	56·42	55·16	52·08	7	3	2	4	10	8	9	11	8	11	11	10	6	9	9	6	29	24	27	28	2	7	4	3	10	12	14	23	21	19	17	8	5	5	12	3·672	1	

Dividing the year into its appropriate seasons of spring, summer, autumn and winter, we find the mean temperature to have stood as follows: for the three summer months we have a mean, by four daily observations of the thermometer, of 70°96; the mean maximum temperature being 86°45, and the mean minimum 57°06.

For the autumn months the mean temperature was 61°53, and the maximum and minimum extremes equal to 74°60 and 49°32, respectively.

In the winter months, ending with February, we find the mean temperature to have been 48°85; the mean maximum being 58°64 and the mean minimum 39°30.

The incompleteness of the tables for the three spring months, for a single year, excludes them from the comparison.

It is thus shown, that, between the summer and fall months, there was a mean difference in temperature of 9°43, and between the fall and winter months, a difference of 12°68; the extreme variation between the means of the three hottest and the three coldest months,—between winter and summer—being only 21° 21.

In this respect the climate compares favorably with some of the most favored climates in the world. By contrasting the results just obtained with the reported meteorological statistics of some of these countries, we find that, at Nice for example, the mean difference between the summer and autumn was merely a degree greater than at Sacramento; between the autumn and winter months 0°92 greater; and between the mean temperatures of winter and summer 2°36 greater, or 23°57 for Nice and 21°21 for this city. In Italy, the southwest of France, and the southeast of France, a similar relation is ascertained to exist—the advantage, in each instance, being on the side of Sacramento. The following comparative statement of mean temperatures, during different seasons of the year, of several localities frequently resorted to by the valetudinarian, together with the same results for Sacramento, may not be without interest, and is certainly highly flattering to the climate of California:—

	Mean Winter Temperature.	Mean Summer Temperature.	Mean Autumn Temperature.
Sacramento..........	48·85	70·96	61·83
Marseilles...........	45·50	72·50	60·08
Rome...............	48·90	72·16	63·96
Naples..............	48·50	70·83	64·50
Florence		74·00	60·70

The subjoined statement exhibits the mean difference between the summer and winter:—

	Mean Difference between Summer and Winter.
Sacramento..............................	21·21
Nice..................................	23·57
Southwest of France......................	26·42
Southeast of France......................	29·26
Italy	27·56

By an examination of the above tables it will be seen that Sacramento possesses several very important advantages over the most favored of these localities. The statement of the means for Sacramento is that obtained from four daily observations of the thermometer—the sunrise observation being represented by the minimum, as noted by the self-register thermometer. Such is stated not to have been the case in the other localities, and this fact alone adds much to the favorable aspeet of the comparison, so far as relates to Sacramento.

If the means of the maximum and minimum are used, the general result will not be essentially varied. It is not intended to convey the impression that a like similitude exists between these climates in their minutest details. In the monthly extremes of temperature, and their difference during each separate month, as well as in the daily range of the thermometer, a wide discrepancy is sometimes observed.

Compared with the climate at San Francisco, these places present a yet more remarkable contrast, and some of these must yield the palm, for equability of annual temperature as well as for that of successive months, to the busy city. In the monthly extremes the contrast is not so favorable to San Francisco; though it is proper to state that the minimum extreme at San Francisco, from which our results are taken, was that given by the self-register thermometer, and consequently the range is greater than when the observations are confined to the day, as in the case of the other localities with which we have compared it. The comparison exhibits the following results, viz.: the mean difference between the summer and fall months 0°31; between fall and winter, 5°09; between the hottest and coldest seasons (between winter and summer), 5°40. In San Francisco the mean summer temperature was 60°02, mean autumn, 50°71, mean winter, 54°62, mean spring temperature, 56°87. A reference to the tabular statement given above of these temperatures in other localities will at once and incontestibly establish the superior equability of the seasons at San Francisco. The following will place the subject in a still stronger light;—

Table of the Variation of Monthly Means, calculated from the Mean Maxima and Minima.

	San Francisco.	Madeira.	Nice.	Italy.
January to February....	2·93	0·80	3·07	5·50
February to March......	2·67	0.90	2·72	4·33
March to April,.........	2·67	0·80	4·20	6·21
April to May...........	2·99	2·50	7·40	7·63
May to June............	1·31	1·80	5	5·80
June to July...........	2·81	3·70	4·25	5·12
July to August.........	0·91	1·80	2	0·82
August to September....	0·16	0·10	4	4·30
September to October....	0·21	3·60	9·50	9·53
October to November....	2·82	3·60	7	9·06
November to December..	4·63	2·60	5·05	5·85
December to January....	0·57	1·60	2·90	3·40

In the daily ranges of the thermometer the coincidence is entirely lost, and the climatic inferiority of the foreign localities is satisfactorily shown.

To return from this digression. It has been already stated that the highest mean temperature of the past year was in July—the thermometer having risen to the height of 103°, and, according to some, as high as 107°. During three days, the temperature at 3 P. M. rose above 100°, and above 90° during nineteen days. At sunrise, the thermometer was 60°, during seventeen days, and above 70° at 10 P. M. during twenty days. The greatest daily range between the maximum and minimum temperature was 39°; next 36°35; the smallest range was 18°. During twenty days, there was a thermometric range of 30°, or over. The above presents a rather extreme example of our summer weather. In exaltation of temperature, it is stated by old residents of the country to have been rarely equalled; and in the fickleness of its disposition, and its gigantic strides from one degree of the scale to another, it stands alone, distinguished from every other month of the year under review.

This extreme heat was not confined to this city or valley. At or near the period of greatest elevation of temperature here, the thermometer in other localities, throughout the State, ranged even higher than in this city. At Placerville, forty miles in an easterly direction, situated among the mountains, over two thousand feet above the ocean level, the mercury stood, in the shade, on the 11th, 12th, and 13th, at 102°, 102°, and 104° respectively; while at Coloma, among the foot hills, eight hundred and fifty-seven feet above the level of the sea, and about fifty miles northeast of this city, during the same week, the temperature ranged from 105° to 114° in the shade. Again, on the 24th, when the mercury in Sacramento reached an elevation of 102°, at Grass Valley, located in a basin among the mountains, about seventy miles in a northerly direction, the thermometer stood at 110° in the shade. At Shasta and Weaverville, both in extreme northern counties of the State, far up in the mountains, the mercury rose, on the same day, to 113° in the former, and 120° in the latter place. On one occasion, during the month of August, a similar exaltation of temperature occurred all over the State.

These facts are introduced for the purpose of conveying a proper conception of our summer weather, and the relation which the thermometer in the mountains bears to that in this valley.

It might very naturally be inferred by those familiar only with the hot weather of the Atlantic States, that the exaltation of temperature we have described would necessarily be attended by the most disastrous consequences to those exposed to its influence; and that, during some of the days of the past summer, the climate must have been almost uninhabitable by the Anglo-Saxon race. Yet such impressions are far from being justly entertained, and such a thing as *coup-de-soleil* is, considering the excessive heat of the sun, rarely met with. The fact is, this severe heat of the summer is seldom oppressive; its daily duration is short, and its declènsion rapid towards the close of the day. Even during the hottest days, with the sun pouring out the concentrated heat of the tropics, there is an elasticity and freshness maintained by the system to which the residents even of New York are strangers during the highest range of the thermometer in that region. But when we consider the temperature at sunrise, and more especially at 10 P. M., an easy explanation will be afforded, not merely of the actual endurance of the summer climate, but of its positive agreeableness. No better evidence of this is needed than that obtained from the records of mortality which will presently be noticed, and a happy illustration is furnished by the circumstances attending the great fire in July last. Although at the time the temperature was 102°, and our citizens were exposed for hours to the combined heat of the sun and the flames, many laboring vigorously, and all more or less excited by the terrible destruction which was befalling them, not one alarming instance of disease is ascertained to have occurred. Many fell exhausted by fatigue, but none were seriously or permanently impressed by the unusual heat of the day.

The climate of the winter months is delightfully mild. If we examine the table of temperatures, we shall find that the lowest monthly mean was 45°23, and the extreme minimum temperature of the winter only 24°, and this for nearly one day. In this, the coldest month, the mean range between sunrise and noon was 11°23; between noon and sunset 10°36; and between sunset and 10 P. M., 6°13; the mean variation between these hours being only 5°90. In February, which appears to have been the coldest month in the Atlantic States, our mean monthly temperature was only 52°90, and the mean meridian 60°10. Between sunrise and noon the variation was 17°75; between noon and sunset 2°53; and between sunset and 10 P. M. 5°97;—the mean difference between these several hours being 8°75.

Those who have been shivering beneath the cold and merciless blasts of the past month in the Atlantic States, with frames benumbed and energies paralysed by a temperature of 20°, 30°, and even 36° below zero, are fully capable of appreciating the genial atmosphere, the balmy breezes, the temperate sun, and the luxurious enjoyment of a California winter. At that very time, while the vegetable world throughout the Middle and Eastern States was lying dormant beneath the frigid hand of winter, our fields were smiling in the freshness of their early verdure, and the delicate blossoms of wild flowers,—the anemone, the violet, the nemophyla, and the ranunculus,—had already expanded their petals to meet the genial sun and woo the balmy air. What more desirable qualities can be sought for in a climate, than those to which we have thus hastily alluded? Especially, when to these external beauties—to all this array of loveliness in the sky and on the earth, there is added a salubrity unexcelled in any region of the globe, we believe that we shall look in vain for a winter climate more agreeable to the feelings, or better suited to the physical comfort and enjoyment of its inhabitants.

We shall close our review of the monthly mean temperatures, with a hasty contrast of the climate of San Francisco with that of this city.

The following is a concise result of a comparison of this kind, embracing a period of nine months, from April to December, inclusive. Thus, the mean temperature at Sacramento, at sunrise, was *higher* than at San Francisco, in April, 1854, 2°10; in May, 1°17; in June, 3°94; July, 9°38; and in August, 3°48; while at the same hour, the temperature was *lowest* here, in September, 1°92; October, 2°; November, 6°46; December, 9°78.

In the mean maximum observations, the climate of Sacramento was the warmest during every month except one—the difference being in April 2°27; May, 7°64; June, 14°25; July, 20°67; August, 18°71; September, 14°12; October, 5°70; November, 3°. In December, the difference was 1°61, the other way.

The mean temperature, therefore, of San Francisco, at sunrise, was warmer than at Sacramento during the winter months, while the reverse obtained during the summer months.

It would not be without interest to examine into the causes of these differences in the climates of localities with so close a latitudinal approximation. The differences in other respects—in the thermometric range, and in the winds, are equally striking and interesting. Without referring to other causes, it is sufficient to allude to the difference in the topography of the two places, their relative proximity to the ocean, and their unequal exposure to the marine winds and vapors during the summer months.

The observation with the barometer embrace a period of eleven months, and three daily observations. The highest barometer during the whole period was 30·49 inches in December; the lowest 29·44 inches, on the morning of the 1st of January, attended by the severest gale ever witnessed in this valley. The total range of pressure, therefore, was 1·05 inches. The greatest variation in any one month, was 0·88 inch, or more than $\frac{7}{12}$ths of an inch in January, 1855. In February, the extreme range was 0·76 inch, in a period of thirty-six hours.

The range of the instrument from month to month may be seen by the several tables we have prepared. One cannot fail to be struck with the marked difference between the summer and later fall, and winter months. The result of the series of observations with this instrument are highly interesting, and it would be profitable, in a scientific point of view, to subject them to a minute analysis. The relation of the pressure of the atmosphere, as shown by the barometer, to the health of a community, is, however, so equivocal and obscure, as to make such an attempt unsuited to the general purposes of the present communication.

The observations with the psychrometer demand our attention, and the results obtained are important in their bearing upon the public health. It would well repay the trouble, to make a closely-analytical examination of this branch of our observations, and, with the varying humidity of the atmosphere, endeavor to trace some connection of the sanatory condition of the city. There can be no doubt of the existence of such a relation, and that a coincident of cause and effect might frequently be established between the prevalent diseases and the hygrometric condition of the atmosphere. Especially, when associated with diminished temperature, the effects of an increased humidity are, occasionally, clearly manifested in the greater frequency of those diseases which long experience proves to be connected with this atmospheric condition. This was particularly noticed in the increased prevalence of glandular and bronchial diseases, and their kindred affections of the throat, as the fall months succeeded one another, and on the approach of winter.

Towards this season of the year there was also observed a very decided tendency in disease to the assumption of a typhoid character, attended with a severe and obstinate gastro-enteritic complication. The greater manifestation of rheumatic and neuralgic disorders, with the associated agencies of increased humidity and diminished temperature, further corroborates the views we have advanced of the agency in question.

The topics yet to be considered forbid the extended review of this subject which its importance and interest deserve. It is one of the few tangible atmospheric agencies prevailing in this country to which we can, with plausible reason, refer any very considerable proportion of the idiopathic maladies met with in the walks of the profession. Whether during the excessive heat of summer, or in the milder atmosphere of winter, the influence of the hygrometric condition of the atmosphere is, in our view, plainly discernible in the varying hygienic relation of the climate.

The subjoined tabular statement of the monthly means of the two bulbs of the psychrometer, and the mean relative moisture of the atmosphere, will afford a tolerably clear view of its hygrometric relations. Observe the gradual increase in humidity as the season advances, from August to January, inclusive.

1854 & 1855.	Mean dry bulb.	Mean wet bulb.	Elasticity of vapor necessary for saturation in millemetres of mercury.	Elasticity of absolute vapor present.	Relative humidity
			mm.	mm.	
Aug.	71·63	61·47	20·51	11·12	·54
Sept.	65·39	57·26	16.54	9·91	.59
Oct.	62·00	54·81	14·84	9·21	·62
Nov.	55 88	49·89	12·02	7·82	·64
Dec.	48·18	40·	9·17	6·14	·66
Jan.	44·89	41·38	8·15	5·95	·73
Feb.	52·72	47·51	10·83·	7·22	·66
Mar.					

According to the above, the greatest relative humidity was in January, viz.: 73 per cent. of the quantity the atmosphere could have contained, and, therefore, the air was damper than in any other month, although the absolute humidity—the actual amount in gross was really less, in consequence of the low temperature, and its diminished capacity.

We shall refer to the subject of atmospheric humidity hereafter, in another connection. Before dismissing the statistical tables we have been considering, we would refer the reader to the statement of the direction and force of the winds, and to the relative frequency of clear and cloudy weather at different periods of the day, and in different months. With regard to the winds, it will be seen that the southerly winds are greatly in excess during the summer months, and the northerly winds in the winter and early spring. The subject, is, however, more fully referred to in another place.

In order that a just idea may be formed of the clearness of the sky in this valley, it may be worthy of mention, that by an examination of the daily record kept during the nine months preceding the first of Jan., 1855, it is ascertained that the proportion of observations when the sky was perfectly cloudless was as follows, viz.: in March (last 8 days), 7; April, 34; May, 32; June, 45; July, 52; August, 47; September, 49; October, 13; November, 25; December, 5; out of a series of observations made four times daily. These may be still further classified according to the periods of the day, as follows:—

March,	sunrise	1;	mer.	0	sunset	0	10, P. M.,	6	out of	32	observations.
April	"	7	"	7	"	9	10 "	11	"	120	"
May	"	9	"	5	"	7	10 "	11	"	124	"
June	"	12	"	7	"	10	10 "	16	"	120	"
July	"	8	"	13	"	10	10 "	21	"	124	"
Aug.	"	10	"	11	"	7	10 "	19	"	120	"
Sept.	"	11	"	12	"	4	10 "	32	"	124	"
Oct.	"	3	"	4	"	0	10 "	6	"	124	"
Nov.	"	1	"	7	"	4	10 "	13	"	120	"
Dec.	"	0	"	0	"	0	10 "	5	"	124	"
Total,		61		60		57		113		1100	

In order to the more perfect elucidation of the summary of monthly means which we have now considered, a series of tables have been prepared, an examination of which will essentially facilitate a proper understanding of the peculiar characteristics of the climate.

The first of these is a statement of the increase and decrease in temperature from month to month.

	Difference in monthly means, four daily observ.	Difference in maxima.	Difference in minima.	Difference in mean m'xima	Difference in mean minima.
April to May	—0·17	—3	—5		
May to June	+6·38	+14·50	+4	+8·30	+4·11
June to July	+8·84	+7·50	+5·50	+10·27	+7·21
July to Aug.	—5·37	—1	—2	—4·32	—5·23
Aug. to Sept.	—5·07	—6	—2·50	—5·15	—4·52
Sept. to Oct.	—2·70	—1	—1	—8·02	+1
Oct. to Nov.	—5·78	—19	—6·50	—5·70	—8·17
Nov to Dec.	—8·36	—5	—11·50	—9·09	—6·96
Dec. to Jan.	—3·19	—1	—4	—5.16	+1·07
Jan. to Feb.	+7·67	+3	+8	+9·14	+4·03
Feb. to Mar.	+4·04	+5·24	+5	+3·48	+6·24

It is here seen that the greatest difference between the means of any two months was 8°84—between June and July—or, that the mean temperature of July was 8°84 greater than that of June. A similar relative difference is observable between the mean maxima of these months, viz., 10°27; although, between the actual monthly maxima—the extreme temperature of any two months—the range in June and July is less than between some other months. In this particular, the greatest disparity is between October and November, and the next between May and June.

The table is particularly interesting as showing the gradual increase of temperature to July, and its consecutive stages of declension to January.

Much has been said at various times, and by different writers, of the coolness of our nights, the rapid reduction of temperature after the hour of maximum thermometric elevation. Indeed, in this circumstance consists one of the most agreeable features of the climate. How severe soever the heat of the day—however exalted the temperature under the burning rays of a powerful sun, the evenings are almost invariably delightfully cool. The rapid radiation from the earth's surface, with the declension of the sun, is one of the causes of this agreeable change; yet the principal agent in the phenomenon is to be found in the direct effect of the southerly winds, whose influence is felt in this portion of the valley during the close of the day. The question of the nature of these winds we need not stop to inquire, nor at this time do more than allude to the various theories entertained as to their origin. By some they are supposed to be excited by the excessive heat of the interior—winds of "suction," as they are termed—currents rushing in from the cooler air of the ocean to supply the vacuity occasioned by the rapid ascent of the heated inland atmosphere; while by others they have been denominated "*pushing*" winds—winds sweeping from the Pacific through the Golden Gate under the existing agency of influences local to the Bay, and "*pushing*" the aerial mass before them through the straits and passes to the valleys of the interior.

The foundation for these opinions it is not our present purpose to discuss, though we cannot forbear the expression of our conviction, from the means of information within our possession, of the entire inadequacy of the latter of these opinions, and its want of correspondence with, and incapacity to account for, the phenomena which attend them in their daily revolution.

Whatever may be ascertained on subsequent meteorological investigation to be true of their origin, there can be no doubt as to their effects, nor of their superior agency in causing the atmospheric changes under consideration. The contrast between those evenings when the wind is north or northwest, and others, the most frequent, when the air is cooled by the refreshing breezes from the ocean, is too striking to escape observation, and is one of the most uniform characteristics of the summer climate.

The following tables are designed to illustrate the daily graduations in temperature occurring under this influence:—

Meridian and 10, P. M., contrasted.

1854 & 1855.	Greatest difference.	Smallest difference.	Difference in means.	Difference over 15° in days.	Difference under 10° in days.
April	22	0	11·26	6 days	10 days
May	22	3	11·68	8 "	10 "
June	19	1·60	10·07	5 "	10 "
July	19·50	8	17·08	11 "	2 "
August	24	6	14·65	10 "	3 "
Sept.	20	8	14·03	9 "	4 "
Oct.	20	6	12·36	1 "	8 "
Nov.	17	4	10·72	2 "	13 "
Dec.	15	3	7·71	0 "	22 "
Jan.	18	0	6·49	1 "	24 "
Febr.	15	2	7·20	0 "	17 "
March	17	1	8·96	1 "	16 "

Maximum temperature contrasted with 10, P. M.

1854 & 1855.	Greatest difference.	Smallest difference.	Difference in monthly means.	Difference under 15° in days.	Difference 20°, or over, in days.
May	22	5	14·59	12 days	3 days
June	23	5	15·72	12 "	5 "
July	24	9	19·66	1 "	18 "
Aug.	27	12	19·75	3 "	14 "
Sept.	26	13	19·15	3 "	13 "
Oct.	21	7	14·16	16 "	2 "
Nov.	22·50	3·50	13·60	14 "	4 "
Dec.	21	4	11·63	25 "	2 "
Jan.	21	2	10·82	21 "	1 "
Feb.	17	2	11·42	21 "	0 "
Mar.	18	2	11·66	22 "	0 "

In the first of these tables are contrasted the temperatures of noon and 10, P. M., showing the difference in the means and extremes of each month at these hours. With regard to the mean differences, the greatest contrariety is seen to have occurred in July, and the least in January. Before this latter month, however, the operating causes spoken of have mainly ceased, and the examination should be confined to the eight months, between April and November, inclusive. With this limitation, the mean difference in temperature at 12, M., and 10, P. M., for the whole period, would be 12°73.

In the column of extreme differences, we find that the greatest disagreement for the eight months was in August, viz: 24°, and the least in November, 17°. In the whole period, the difference was over 15° during 52 days, and under 10°, sixty days, leaving 134 days with a difference between 10° and 15°, inclusive. It will be observed, that after October, the variation in the temperature at these hours becomes rapidly less, until February, when it again increases.

If we contrast the maximum temperature with that at 10, P. M., we shall find the greatest difference, both in the means and extremes, to have occurred in August, and the smallest difference in November. Of the whole period, from May to November, inclusive — 214 days — there were 153 days with a thermometric difference of 15°, or over, and of 20°, or over, during 59 days.

In the succeeding table, the gradations in temperature between the hours of maximum and sunset, and the former and 10, P. M., are more clearly exhibited, as well as the relative frequency of southerly wind, at noon, sunset, and 10, P. M.

1854 & 1855	Max. temperature at sunset and 10, P. M., contrasted; also wind at meridian, sunset, and 10, P. M.				
	Max. and sunset, diff. of means.	Max. and 10, P. M. diff. of means.	Wind south'ly in days, at mer.	Wind south'ly in ds. at sunset.	Wind south'ly in ds. at 10, P. M.
1854.					
May.......	7·85	14·59	23 days	25 days	27 days
June......	9	15·72	20 "	28 "	29 "
July......	11·15	19·66	22 "	29 "	29 "
August....	10·75	19·75	26 "	29 "	31 "
September.	11·22	19·15	26 "	28 "	30 "
October...	5·58	14·16	22 "	23 "	26 "
November..	5	13·60	12 "	12 "	15 "
December..	5·14	11·63	12 "	17 "	17 "
1855.					
January...	4·69	10·84	13 "	15 "	18 "
February..	5·45	11·42	16 "	14 "	10 "
March.....	7·25	11·66	19 "	20 "	21 "

The greatest difference between the mean maximum and sunset temperatures was in September, 11°22, and between the ranges at the hour of maximum and 10, P. M., in August, 19°75; the mean difference for seven months—from May to November—being 8°65 between the former hours, and 16°66 between the latter, or nearly double that between the maximum and sunset temperatures.

In the direction of the wind there is not observed so great a disparity, yet sufficient to demonstrate the gradual increase in the prevalence of southerly winds after noon. If the completeness of the observations at other periods of the day—after sunrise and between this hour and noon—would permit, a much more striking contrast could be exhibited.

Upon examination of the daily reports kept during the summer, we find it to be a common occurrence for the wind to change its direction shortly after sunrise round to the northwest or north, and to remain in this quarter for a greater or less period of time, as shown by the tables.

We have dwelt thus long upon this portion of our subject, because it is considered to embrace one of the most important peculiarities of the climate. To the physical system, relaxed and languishing under the burning rays of a mid-day sun, flushed with an atmosphere of 95° or even 100° of Fahr., nothing can be more grateful to the feelings than the cooling breezes which come wafted over the plains, freighted with oceanic vapors and invigorating freshness.

If, with the excessive heat, we consider the dryness of the atmosphere,—the vapor of water present, amounting frequently in the hottest part of the day to less than 20 per cent. of the quantity it could contain,—and reflect upon the evaporation which must be going on from the surface of the body under such favorable influences, some adequate idea may be formed of the delicious sensations which these cooling winds occasion, and the refreshing luxury of their daily return.

It is not surprising if, from changes in temperature so extreme as those which we have seen to ensue after the hour of maximum heat, there should result, in consequence, some injurious effects upon the general health. Indeed, we may consider the transition now under consideration as one of the most prominent and fruitful sources of disease to which we are exposed.

Upon examination of the tabular statements before referred to, it will be seen that the variation in temperature between 3, P. M. (max.), and 10, P. M., was over 20°, during 18 days in July last, while between the maximum (3, P. M.) and minimum (max. sunrise) in the same month, there might have been shown a discursiveness of 30°, or over, during 19 days. The extreme daily range was 39°. In August, the difference between the hours of 3 and 10, P. M., was 20°, or over, during 14 days; between the maximum and minimum 30°, or over, during 21 days; and the extreme daily range was 40°. In September, the mercury exhibited a slighter variability, and the temperature was exempt from those vast extremes, noticed during July and August; yet even in this, there were 13 days showing a range of 20° of

Fahr. between 3, P. M., and 10, P. M. Between the maximum and minimum the difference was 30°, or over, 15 days; the extreme variation having been equal to that in July.

Exposure to conditions of temperature such as we have described, could hardly fail of exerting a more or less deleterious influence upon the system. The wonder is, that it should not be more severely manifested than experience warrants us in believing, or than is shown by the records of mortality. It is, indeed, surprising that, under these atmospheric habitudes, the excessive heat, the variability of the temperature, the exceeding dryness of the air, and the rapid evaporation which, under the scorching rays of the sun, must have been going on from the surface of the cutaneous system, and the hyperæmia, the congestive tension, the exalted susceptibility of the internal secreting organs, there should not have been, during the months referred to, a very decided prevalence of disease. Especially, when we regard the exposure, the excesses, the imprudences, and the general mode of life among so many of the population, it is wonderful that disease should not have more universally diffused itself than is demonstrated by the statistics of the season. Yet there probably never was a summer when the destructive impress of disease was less felt in Sacramento, than the past. It would seem that in almost any other climate in the world, the same obvious operating causes, the same regimenal and atmospheric agencies, could not exist to an equal extent, without an overwhelming manifestation of their disastrous consequences. It will be seen hereafter that such is far from being the case, and that in the months of July, August, and September, combined, the total mortality was only fifty.

With regard to the diurnal variations in temperature, it may be observed that, though these are *ultimately* great, or in other words, though the thermometer range between the hottest part of the day and the coldest is large, yet it is not *usually sudden*, and is thus unattended by those disagreeable and deleterious impressions upon the nervous system which an abrupt deviation to the same extent would be likely to occasion.

The mean temperature of June, for example, at meridian, differs from that at sunset, less than 4°, and from that at 10 P. M., only about 10°, while on the day of the greatest range, viz., 30°50, the thermometer stood at sunset only 5° less than at noon, and at 10 P. M., only 14°. The mean maximum temperature in the same month was 81°15; and on comparing this with the means at sunset and 10, P. M., we find the range only 5° for the former, and 15°72 for the latter, though the difference between the mean extremes of the month—the range between the mean maximum and minimum—was 27°01. The same may be said of other months. It is not until near sunrise that the minimum extreme is observed, and the easy gradations by which the reduction of temperature ensues, as well, also, as the comparatively small diminution which has taken place at an hour when a vast majority of the population would be likely to be exposed, will partially account for the very great immunity from disease by this cause which experience exhibits.

Another modifying and palliative agent in pretty constant action during the season of these winds, may be found in the hygrometric condition of the atmosphere.

It will be seen by an examination of the observations with the psychrometer, that the prevailing state of the atmosphere during the summer·months is dry. So extreme is this aridity at times, that the lower aerial strata seem to be almost completely desiccated, or at any rate, to contain but a very meager per centage of their capacity for moisture. On several occasions this has been ascertained to be less than 20, 18, or even 15 per cent., and its effects upon the system are similar to the reputed influences of the sirocco of Italy. On the 15th of August, 1854, at 3 P. M., the temperature being 96° Fahr., the atmosphere could have contained about 460 grs. of the vapor of water in each cubic yard. There was present, in fact, only about 83 grs., or 18 per cent. of the quantity necessary for saturation. At this time the wind was northwesterly, and oppressively hot. Now, although the south wind should, at this time, have come up from the ocean loaded with vapor, a large amount must have been absorbed—377 grs., supposing the temperature to have remained unchanged—by every blast which swept over the valley, before saturation would have occurred. But as the mingling of the cool marine breezes with the heated air in the valley would have lowered the temperature of the latter, and consequently its capacity for moisture, somewhat less than 377 grs. would have occasioned saturation. At sunset the temperature had actually fallen to 84°, and at 10, P. M., to 76°; yet at this latter hour, although the wind was then southerly, the atmosphere was far from being in a state of saturation, containing only 57 per cent. of the quantity it could have absorbed. This is not considered an extreme example, and many similar instances might have been selected for illustration, during the hottest days of the past summer.

We have prepared a table, or chart, by the aid of which, the dew-point and temperature being known, the absolute humidity in grs. is determined. By an observation of this kind every day at noon, we have gained a fair appreciation of the extreme aridity of a portion of the past season. The following are examples of this atmospheric peculiarity. Thus, on the 7th of July, 1854, with a meridian temperature of 73° and a dew-point of 45°, there were present only 3·41 grs. of vapor of water in each cubic foot of air, against 11·96 grs. which it might have held in suspension; on the 14th, 6·79 grs. against 15·89 grs.; and on the 24th, with a temperature at noon of 94°, there were present only 4·30 grs. in a cubic foot, whereas the atmosphere possessed a capacity for 16·84 grs. These few examples may suffice for our present purpose. Is it not probable that this dryness of the atmosphere is one of the reasons of so great an exemption from injurious effects consequent upon the extreme vicissitudes of temperature? Upon examination of the tables, it may be seen that, at 10, P. M., the mean relative moisture, or the per centage, during the hot months of summer, was not large; in August it was 62 per cent. Inasmuch as cold associated with moisture is rendered much more deleterious to the system than in the opposite hygrometric condition of the atmosphere, it seems fair to conclude that the proposition we have endeavored to maintain is well founded, and that one of the causes, if not the principal one, of so general an immunity from disease, consequent upon exposure to the extremities of our climate, may be found in the comparative freedom of the atmosphere from aqueous vapor.

We said that the variation in temperature was *usually* gradual. Such, however, is not always the case. At times the change occurs with suddenness, and with a rapidity of declension seriously conflicting with physical comfort, and detrimental to physical health. To this cause are to be attributed many of the affections of the mucous, fibrous and pulmonary tissues met with in the summer months; and we believe, moreover, many of those diseases, usually considered to be of a malarious origin, though not actually originating in this cause, may strictly be referred to it as a powerful predisponent, as inducing an adaptability to their encroachments, which would otherwise be successfully resisted by the innate vigor of the constitution.

Upon the nervous tissues, especially, from their intimate relation to the cutaneous surface, the impression bears most energetically, and it requires but a casual inquiry into the exciting causes of the diarrhœas and dysenteries met with in practice to lead the mind to fasten upon this as one of the most prevalent and active. Attention to the avoidance of exposure to these diurnal vicissitudes, and care to avert their injurious consequences by proper clothing and regular ablution, will of themselves prove more effectual preservatives against attack, and of more avail in many cases as remedial agents, than all the appliances of the materia medica.

To individuals with sensitive respiratory organs, whose bronchial and pulmonary membranes are irritable, these changes often prove exceedingly troublesome, and too often confirm a diseased condition, which, under more favorable circumstances, might have been insignificant and unessential. It is difficult intelligently to estimate the true influence of the climate upon pulmonary phthisis. Many of those who die of consumption in this country undoubtedly came hither with the germs of disease already well developed; and, as it is apt to do in any climate, it has here progressed to a fatal termination. We conceive that there is little doubt of the ineligibility of those portions of the State, subject to the influence of the winds from the ocean, and the extreme vicissitudes consequent upon them, for persons of consumptive predisposition. It will be presently shown that at Sacramento, out of 267 deaths in the past year, 29 are set down as cases of consumption; and in San Francisco, out of 1765 deaths in the city proper, and at the hospitals, 203 are reputed to have occurred from this cause. Of course many of those dying at the hospitals should not properly be considered as cases originating under climatic influences belonging to California; for of these 203 more than one fourth were at the United States Marine Hospital, and were composed of seamen dying of diseases contracted abroad.

It would seem that the dryness of our climate, at certain seasons, would render it a favorable one for the disease under consideration, and there can be no doubt that for many cases such is the fact; while the modifying elements which have already been referred to in connection with the daily variations of temperature, as dependent upon the aridity of the atmosphere, must render it much less prejudicial than it would otherwise prove to be. It is probable that in many of the mountain countries, above the level of the fogs and dampness which at times accumulate in the valleys, the condition of the atmosphere may be highly favorable for this class of diseases.

It would be interesting to examine into the relations of the native Californians to tubercular phthisis, and to inquire into the frequency of the manifestation of the disease among those who, by birth and by hereditary impress, are the peculiar subjects of the climatic influence, and serve, in their constitutional tendencies, to illustrate its features. Our means of information upon this subject have been limited, though we have been informed, upon reliable authority, that among the natives of the southern portions of the State true tubercular phthisis is extremely rare. The climate of this portion of the State differs from the more northerly sections in some important respects, being more equable in temperature, and possessing a clearer, drier, more transparent atmosphere. The extremes of heat and cold—the maxima and minima—are said to be less discrepant; it is warmer in winter, and cooler in summer.

The question is one of interest, and admits a more extended examination than will accord with the assigned limits and purposes of this communication.

We have devoted thus much to the subject of the daily variation in temperature to which we are exposed, and its influence upon the health, from a conviction that to this single cause many of the diseases met with in this valley are to be attributed in its direct or secondary relation. In concluding the subject we cannot forbear to repeat the expression of surprise, that, under the atmospheric agencies alluded to, there should not be found a far greater and more general impairment of health than facts or the records of mortality exhibit. It would seem, that under no other combination of circumstances than those which stamp, with emphatic and singular salubrity, the climate of this portion of California, could this immunity from severe disease so widely prevail.

It is not to be inferred that this inequality of temperature is a uniform characteristic of our climate. On the contrary, the daily range of the thermometer is frequently small, and, as may be seen by an examination of the tables, the temperature is, during some months, remarkable for its equability. A comparison with some localities in the Atlantic States presents the climate of Sacramento in a favorable light. At Lambertville, N. J., the difference in the means of Fahr., between the hours of 2, P. M., and 9, P. M., in June, 1852, was 18°49, being an excess of range over that at Sacramento this year of nearly 3°. At Chapel Hill, N. C., the difference in means at 3, P. M., and 9, P. M., for the same month, was 12°40, and at Cambridge, Mass., 11°8; while at Savannah, Geo., the means, at 2, P.M., and 10, P.M., June, 1852, contrast with those in Sacramento, in 1854, at 3, P. M. and sunset, corresponding nearly, in hours of observation, as 6°2 for the former and 4° for the latter.

In monthly means these two places stand in the relation of 77°9 for Savannah and 66°8 for this city. By taking the mean of the difference between the maximum and minimum temperatures in each month at Savannah, and also at Sacramento, we find the result to be nearly 6° (5°95); or, in other words, that the mean monthly range of the extremes of temperature is only 5°95 less in Savannah than in this city.

In Savannah, the greatest range in temperature appears to be in the autumn and winter months; with us in midsummer. In Sacramento the range, in July, was 51°50, and in August 52°50. In Savannah, the previous year, the range was 26°7 and 24°5, respectively; while in February, the range at Sacramento was 39°, and in March 39°. In Savannah, at the same time, it increased to 42°1 in the former, and 47°4 in the latter month.

In many respects the climate of Sacramento is the most delightful of which we have any knowledge. If you take the past year as an example, it surely cannot be surpassed by any other locality in the same parallels of latitude. Although the sun at meridian is at times, during the summer months, exceedingly hot, yet, as before remarked, the atmosphere is seldom oppressive, and the duration of the extreme daily temperature is confined to a very small portion of each day. The fall of the year is particularly attractive—fascinating by its bright skies, its transparent atmosphere and agreeable temperature, and excelling in all that is calculated to please the taste, to gratify the feelings, or to improve, expand and exalt the physical condition of a population. Viewed in all its relations, in the character of the several seasons, and in their succession throughout the year, we regard the climate of our autumn months as surpassingly delightful. Avoiding either extreme, the temperature is moderate; the mornings fresh and invigorating, the noonday subdued into a genial warmth, and the evenings generally mild and beautiful. Such were October and November last. With a mean meridian temperature, in the former of 71° and in the latter of 65°—an atmosphere whose freshness is constantly renewed and its salubrity insured by the genial current which sweeps above us, and a sky rivaling that of Italy in its rich and delicate blue, its transparent clearness, its gorgeous glories reflected from the setting sun, and, above all, in the splendor of the night, with its bright stars and deep-encircling blue—with such a climate, where shall a better, or one more suited to the physical necessities of a population, be sought? The winds, which during the summer months prevail most generally from a southerly direction, at this season are more frequently northerly or northwesterly; such is their common direction during the intervals between the rains, and they are then cool, refreshing and invigorating. Our coldest weather in the winter season is experienced during the prevalence of these winds; and their steady perseverance in this quarter is properly regarded as a pretty certain indication of continued fine weather.

Such, in few words, is a faithful portraiture of our fall and winter months, except during the immediate régime of the storm-king. This is only at intervals of a few days' duration, the interregnum being, generally, unexceptionably fine.

The sanatory condition of the city, at this season of the year, is universally good. Most of the causes of disease which have been referred to, have now ceased to prevail. The extreme and gigantic strides of the thermometer, between the hottest and coldest portions of the day, have given place to a more regular, yet agreeable variation—a genial warmth at meridian, a pleasurable reduction of temperature in the evening, a cool, bracing, invigorating atmosphere in the early morning. In addition to these favorable considerations, the hygrometric condition of the atmosphere is not to be overlooked. Except for a short time antecedent to, and during the prevalence of rain, the relative humidity is generally small. Even as late as November and December, the mean relative humidity, at noon, was 49 and 53 per cent., respectively, and on several occasions, during each of these months, as low as 30 and 35 per cent., at the same hour. At a later period of the day, it was even much less than this. It is not surprising that, under such meteorological conditions—under this combination of a dry atmosphere, regular, cool and invigorating breezes, and a moderate and tolerably equable temperature—the sanatory condition of the population should remain uniformly good. Such, in fact, is the actual condition of things. The accumulated experience of each year only adds confirmation to the opinions, so often expressed, of the unequaled salubrity of the climate; and of the fall and winter months this is eminently true. The records of mortality, embracing every death occurring in the city, are full of practical interest on this point, and fully establish the position assumed. During the months of December, January and February there was in each month an average mortality, from disease, of 12 persons. This, in a population of 13,000, would give one death monthly to every 1084 inhabitants—a sanatory condition without a parallel in any of the larger cities on the Atlantic coast. This is no isolated example—no peculiar season. A similar calculation for several of the past winters would afford a similar result. Indeed, according to our own experience, the sickness during the present winter and spring has, thus far, exceeded that of the last season

While on the subject of the winter season, it may be interesting to notice, as an item of some importance in the climatic history of Sacramento, the fact of ripe strawberries having been gathered in the gardens immediately on the outskirts of the city, in November of the last year. Perhaps no circumstance can serve as a better illustration of the advantages of the climate, than this.

The effect of climate upon the vegetation of a country—the influence of the seasons in their annual rotation, in retarding or invigorating the productive energies of the soil, is one of the most interesting considerations in which it may be studied, not only in an economical point of view, but in the bearing which it has upon its medical character. The vegetable productions of a country, the variety of plants which it is capable of sustaining, and the development they may ordinarily attain, amid the adverse influences of winter, or the trying extremes of summer heat, must, it will at once be admitted, bear an important relation to its influence upon the animal organizations inhabiting it. The consideration of this subject opens an attractive aspect of our climate, to which we can do no more than allude at the present time.

Allusion has occasionally been made in the preceding pages to the transparency of the atmosphere in California. Indeed, in this attribute of beauty it can scarcely be *excelled* anywhere. Even to this valley this remark will justly apply, yet with how much greater force to the more elevated districts—to the mountains of the Sierra Range, and especially to the southern portion of the State. As an instance of this atmospheric characteristic, and the extent to which it prevails, the following has been related to us by Dr. Trask, the present State geologist. At San Pedro, in Los Angelos county, the signal-staff of the United States coast-survey, situated at an elevation of 1600 feet above tide level, is distinctly visible to the naked eye at a distance of four miles by an air-line measurement. The diameter of the staff is only 4½ inches. The Doctor informs me that he has repeatedly noticed the phenomenon. Even in this valley, at Sacramento, such is the transparency of the atmosphere at times, that the range of the Sierra Nevada, extending along the eastern limits of the State, at a distance of 100 to 150 miles, have occasionally appeared to lift their huge summits along the very outskirts of the city. I have noticed this only in the morning, before sunrise, and even this very morning (March 21st) so distinctly, as to strike me with surprise.

The atmosphere of the valley is far from always possessing this attribute to so remarkable a degree. Even during many of the hottest, and, as far as the lower strata of air are concerned, the dryest days of the summer months, when the sky is perfectly cloudless, there is observable a vapory condition of the atmosphere obscuring the natural color of the heavens. We have observed this condition much less frequently when the wind was west or northwest, and when a fresh breeze was blowing. At such times it would seem as if the vapor in its ascent would be collected into light masses of clouds, revealing an atmosphere above which rivals, in its deep, clear blue, the sky of the tropics.

In the month of August attention was paid to this subject, with the view of ascertaining the prevalence of this feature, and of classifying the color of the sky, according to the particular shade exhibited. The following is the result:—

Sunrise..............	vapory,	20 days;	light-blue,	5 days;	blue,	2 days.
Meridian............	"	11 "	"	14 "	"	4 "
Sunset...............	"	14 "	"	10 "	"	5 "
10, P. M.............	"	14 "	"	15 "	"	14 "

At meridian, sunset and 10, P. M., two days were omitted.

The above is intended only as an approximation to correctness, and is calculated to convey a very general idea of the appearance of the atmosphere during the month. During several of the days classed as light-blue there was more or less vapor floating in the atmosphere, yet not sufficient to admit a different classification. Those included under the class "blue" presented various shades, even to the deepest.

A single additional reference to the meteorology of the climate will conclude our remarks upon this subject;—we allude to the quantity and number of rains with which we have been visited during the present season. In this respect seasons are so variant, that no single case can serve as an exact standard by which to judge of the true character of all; yet, by the table given below of the number and duration of the rains this season, an approximative idea may be formed of what a rainy season in California consists.

It may not be amiss to remark, that our rains almost invariably come from a southerly direction, usually south or south-south-east. So uniform is this proclivity, that we have had during the past year only one rain from the northerly half of the octant.

The probable source of the north winds in the mountains of Oregon, as well as their invariable dryness, and their pretty constant association with a high barometer, are, of themselves, sufficient reasons for the uniform observance of this rule.

We shall commence our examination with October, 1854, although as early as the 21st of August there was the unusual occurrence of a brisk shower.

The following will exhibit the dates of the rains from October to March, inclusive, with the quantities which fell each day. The measurement was made daily, at 9, A. M., and includes all that fell from 9, A. M., of one day to the same hour on another:—

Rain at Sacramento from October, 1854, to March, 1855, inclusive.

M'ths	Date	Inches	M'ths	Date	Inches	M'ths	Date	Inches
Oct.	4th	0·42	Dec.	30th	0·255	Feb.	14th	sprinkle
"	9th	0·15	"	31st	1·545	"	22d to 9 A. M. 23d	0·08
			1855.					
"	12th	0·12	Jan.	1st	0·0220	"	23d to 9 " 24th	0·0275
"	13th	slight	"	2d to 9 A. M. 3d	0·45	"	25th to 9 " 26th	0·1750
"	20th	sprinkle	"	3d to 9 " 4th	0·25	"	26th to 9 " 27th	0·3455
"	22d	"	"	4th	light	"	27th to March 1st	2·87
"	23d	0.07	"	5th	l't snow	M'ch	1st	light
"	24th	0·04	"	7th	sprinkle	"	2d to 9 A. M. 3d	0·17
"	25th	0·18	"	8th	0·60	"	4th to 9 " 6th	0·89
"	26th	0·06	"	18th	0·63	"	6th to 9 " 7th	0·165
Nov.	18th	0·65	"	30th	light	"	9th	0·025
"	21st	0·0267	"	31st	0·05	"	12th	0·79
"	27th	sprinkle	Feb.	1st	sprinkle	"	13th	0·03
"	30th	"	"	6th	"	"	14th	0·21
Dec.	2d	8·0818	"	7th to 9 A. M. 8th	0·405	"	29th	sprinkle
"	4th	0·32	"	8th to 9 " 9th	0·063	"	30th to 12 M. 31st	1·392
"	26th	sprinkle	"	10th to 9 " 11th	0·25		Total to April 1st	13·8065

The above includes all the days of rain within the time specified, and may be considered to embrace one entire rainy season, although we shall undoubtedly have occasional showers in April, possibly one or two in May. If we extend our examination back to include twelve successive months, to April 1, 1855, we shall have to add for April, 1854, 11 days, when more or less rain fell, varying from the merest attempt to a brisk shower; May, 4 days; June, 3 days; August, 1 day;

September, 1 day; making in amount an aggregate of about two inches. It is proper to notice, in addition, as a somewhat unusual event, the occurrence of sharp lightning in April, and again in June. On the last occasion it was sufficiently severe, about fourteen miles in the interior of the country, to terminate the career of a valuable cow.

Another subject to which we may profitably refer, is that of the physical influence of the climate—its effects upon the physical system of its inhabitants, considered in a distinct aspect from its morbific tendency. We shall not stop to discuss the question of the influence of the climate upon the development of man, as an organized being, though there are many substantial reasons, drawn alike from analogy and from direct and positive demonstrations, upon which the proposition of its superiority, in this respect, may be successfully maintained. Indeed, it may be remarked, that nowhere is there exhibited in the physical development of the animal organizations of a country, a more conclusive evidence of the directly modifying tendency of its climate, than is displayed among some of the animal races in California. The vigor, the energy, the physical amelioration which ensues upon their introduction into the State, can only be referred to this agency, and their thorough appreciation must lead, with all the weight of a sound analogy, to the substantiation of the principle to which we allude. The view of the climate which we intended, more especially, to illustrate, is that of the resiliency, the elasticity, it imparts to the system under the inroads of severe disease, or the shock of local violence—the recuperative energy displayed under circumstances the most inauspicious and discouraging. During a residence of nearly four years, numerous instances, illustrative of this climatic tendency, have occurred, and we regard it as one of the most remarkable, felicitous and interesting expressions by which it is distinguished. Allusion has already been made to the remarkable exemption from disease exhibited by our inhabitants, under circumstances which, by all the processes of reasoning commonly adopted, would be expected to lead to a different result. In the earlier days of the settlement of the State, these modified influences were much more prevalent than at the present time; but, even now, they are to be seen every day, and serve as living evidences of the excellence of the climate—of the existence of the peculiar element of health under consideration. If we take, for example, the condition of some portions of this valley during the summer months, steaming beneath the rays of a burning sun—diffusing the rank vapors which arise from the depositions of an inundation over vast neighborhoods, or, as shown on a previous occasion, even of this city in the days of the annual floods, and observe the transient, the trifling, the very equivocal evils which ensue, we are at once furnished with a satisfactory illustration of the climatic principle to which we refer. But even more clearly is this principle displayed in the recuperative energy of the system under the destructive influences of disease or violence. No better evidence of this can be required, than what may be fairly deduced from the following case:—

A gentleman, of a naturally strong and vigorous constitution, was severely injured in a recent steamboat explosion at this port. Beside a large number of burns or scalds, denuding the cuticle from an extent of surface not less, in the aggregate, than five hundred square inches, upon his right leg was a compound comminuted fracture of both bones. The comminution was for an extent of about five or six inches of the tibia, and in some ten or twelve pieces. The protrusion of the bones was in two places, one each at the upper and lower extremities of the fracture. In fact, the tibia was completely crushed for the extent mentioned. In addition to the exfoliation of the cuticle by the scalds, the cutisvera and circumjacent cellular structures were entirely destroyed over a space not less than twelve or fifteen square inches. When the patient was found, after the accident, such was the vital depression, such the destruction of tissues around the fractured extremity, such the extent of nervous filaments exposed through the bare and denuded cutis, such the gloom, the mental depression, attending an accident so frightfully fatal in its consequences, that all reasonable probability militated against the saving the limb. If to these untoward prospects we add the profuse drain which was so soon to be established from so extensive a suppurating surface as that which the scalds had exposed, and the debilitation which must inevitably ensue, it must be admitted that the prognosis of an ultimate recovery with the integrity of the limb preserved, was scarcely to be entertained. Surgery—the science, the theory of surgery—here would have taught that amputation was almost inevitable. But an operation, postponed in deference to the wishes of the patient, at length became unneeded. Nature, taking the case into her own hands, almost unaided, save by the influence of the inherent efficacy—the recuperating impulse of a favorable climate, is repairing the injury in her own quiet way, and triumphs over the precepts of science and the sagacity of the surgeon.

This is no isolated case. Its counterpart may frequently be met with in medical and surgical practice. Akin to the principle of organic development, of which we have already spoken, this constitutional element of the climate is equally pervasive, and is strongly exemplified by the most unmistakable evidences.

We have before alluded to the diseases most prevalent in this valley, and need not now repeat what was then stated, nor add any very lengthy description of their peculiar features or relative frequency. The fevers are comprised under the general heads of Intermittent, Remittent, and Typhoid, and their relative frequency may be stated in the above order.

Generally speaking, they are mild in form, and readily amenable to early and judicious treatment; the principal local mischief to be apprehended being a gastro-enteritic complication. A purely congestive type of fever is occasionally, though rarely met with, in this immediate neighborhood. The same hasty glance may suffice for the diarrhœas and dysenteries which occur, especially during the summer and early autumn months.

Under these two names may be comprised the greater proportion of the diseases which demand treatment during these seasons. In their early stages they are generally mild and tractable, but, by neglect or imprudence, often become obstinate and troublesome. We have alluded to what we consider one of the principal causes of these complaints, and to the hygienic means most essential both for their prevention and cure.

Without a proper regard to these precautions—without some attention to the preservation of a healthy action of the cutaneous system, and, through this, of these important internal organs and surfaces of secretion, these affections are too often constantly recurring, and assume a chronic form from which complete relief is with difficulty obtained. Of these diseases, a few cases were observed in September, which seemed, for a time, to threaten the prevalence of a severe form. These were manifested as diarrhœa, attended by frequent watery discharges, colorless, and without much pain or tenesmus, with a cool, dry skin, pale, clean or slightly-furred tongue, and chiefly characterized by an entire absence of the natural warmth of this organ. With these symptoms, was a prostration of strength, a feebleness of pulse, and a peculiar anxiety of countenance, which stamped the disease as one requiring prompt remedial measures. These threatening symptoms were effectually relieved by full and frequently-repeated doses of camphor, *combined* with calomel, opium, and, if required, capsicum, aided by a scrupulous observance of absolute rest in a recumbent posture.

With the exception of a few such cases as the above, the health of the city, during the month, was good, only twenty-one cases of death having occurred, of which four were of diarrhœa and dysentery, four of typhoid fever, and two stated to have been of ship fever.

No more satisfactory evidence of the sanatory condition of the city can be furnished, than that derived from the report of the annual and monthly mortality. Judged by this standard, the climate of Sacramento may be regarded as one of the most salubrious in the world. The records of mortality are decisive upon this point, and fully and unequivocally sustain the views we have already repeatedly advanced in reference to the health of the city. They also completely corroborate the opinions contained in the foregoing pages as to the character of the meteorological elements of the climate—of such, at least, to which have been ascribed a more or less intimate hygienic relation.

The following is a tabular statement of the principal causes of death during the year 1854:—

Table of Mortality at Sacramento City for 1854.

Diseases.	Deaths.	Diseases.	Deaths.	Diseases.	Deaths.
Diarrhœa........	23	Convulsions....	5	General Debility....	3
Dysentery.......	13	Enteritis.......	10	Paraplegia:........	2
Consumption.....	29	Hepatitis (?)....	2	Epilepsy	1
Fevers..........	42	Chol. Infantum.	1	Worms (?)..........	1
Dropsy..........	8	Chol. Morbus...	2	Scrofula...........	1
Dis. of Lungs...	14	Laryngitis	1	Smallpox	5
Dis. Heart......	1	Bronchitis	1	Tabes Mesenterica..	1
Dis. Brain......	8	Croup..........	4	Ovarian Tumor	1
Dis. Spine......	2	Rheumatism ...	1	Childbirth and sundry accidents, murders and unknown	79
Erysipelas.......	3	Teething	2		
				Total	266

It is worthy of being remarked that out of the whole number of deaths, viz., two hundred and sixty-six, forty-eight were occasioned by sundry accidents, or direct indiscretion or intemperance, and twelve were Chinamen who died of a peculiar malady, by some supposed to have been the scurvy, contracted on the voyage to California, and the same disease which proved so frightfully fatal among these immigrants at San Francisco. If to these we add those which were manifestly unconnected with climatic causes, such as spinal diseases, convulsions, epilepsy, worms, smallpox, tumors, tabes mesenterica, disease of heart, and paraplegia—being a total of eighteen, we shall have seventy-eight deaths which could not reasonably be referred to any local atmospheric influences, or a little less than one third of the whole; and if to these again we add those from unknown causes, viz., thirty-one, we shall leave only one hundred and fifty-seven deaths during the year, which can plausibly be ascribed to the climate.

Admitting the justness of these deductions, the mortality of the city for the year was only one in 82 inhabitants, in a population of 13,000; or, reckoning from the total number of burials—which includes death from all causes—the ratio of deaths to the population would be only one in 48 inhabitants.

The statistics of mortality in the larger cities of the Atlantic States are not at hand, by which to institute a comparison with the result just stated for Sacramento. From the November No. of the *New York Journal of Medicine* we learn, that in New York city 22,702 deaths occurred in the year 1853. This, supposing the population to have been 500,000, would be a mortality of one in twenty-two, or more than double that of Sacramento, even if we include in the estimate the large number of burials which were the result of murder, suicide and sundry accidents.

The large mortality among those under the age of five years is surprising, and of these 34 were of the age of one year, or under. The proportion is certainly a large one in comparison to the whole number of deaths, and forcibly exhibits the change which has recently been effected in the character of our population,—a change indicative of vast social and moral amelioration. In 1852, as was formerly shown, only 49 of the whole mortality was under five years of age, of whom 17 were under one year; and in 1853, 23 were under five years and 18 under one year. The table on the next page is a statement of the ages of the deceased for 1852, '53, and '54:—

Sufficient has been already said of the relation of the different months to disease. Both in this and a former review of this subject, we have alluded to the causes prevailing in our climate during different seasons, and the statistics of mortality fully corroborate the opinions expressed.

Statement of Ages of Deceased for 1852, 1853 *and* 1854.

AGES.	1852.	1853.	1854.
Under 5 years..............	32	23	62
From 5 to 10 years.........	4	8	6
" 10 " 20 "	15	21	9
" 20 " 30 "	87	214	41
" 30 " 40 "	70	126	45
" 40 " 50 "	43	79	24
" 50 and over...........	24	40	10
Unknown..................	49	106	69
Total......................	333	643	266

We shall conclude the subject with a hasty contrast of the mortality of Sacramento and San Francisco, and with such reflections as grow out of it, having reference to the comparative salubrity of the two localities. The statement of mortality in San Francisco is taken from the published report of the city sexton, embracing the burials in all the different cemeteries.

Comparative Mortality of Sacramento and San Francisco.

1854.	Sacramento.			San Francisco.			
January,	37	July,	19	January,	128	July,	154
February,	17	August,	20	February,	97	August,	245
March,	23	September,	21	March,	135	September,	216
April,	12	October,	32	April,	120	October,	166
May,	16	November,	27	May,	126	November,	119
June,	18	December,	24	June,	117	December,	83
Total,			266	Total,			1765

Taking the above as a guide in our estimation of the relative salubrity of the two localities, we cannot fail to be struck with the very evident advantage, in this respect, on the side of Sacramento.

We have already seen that the mortality of Sacramento during the past year was only one in forty-eight; or, if we make certain deductions, only one in eighty-three.

According to a calculation in the *San Francisco Herald*, the population of that city may be set down at 40,000; and, considering the total mortality in 1854, as reported by the city sexton, was 1,[illegible], the proportion of deaths to the inhabitants is one in twenty-two. But a liberal deduction should be made for those dying at the hospitals, and who had contracted their diseases elsewhere. Taking the estimate of the Herald, we set these down at 45[illegible], which, deducted from the apparent mortality, would make the actual number of deaths in the city proper 1,2[illegible].

The proportion of deaths to the population would be one in thirty-one. In any light in which the comparison may be considered, the greater salubrity of Sacramento during the year 1854, must be at once acknowledged. To make the contrast more exact, perhaps we should only deduct from the mortality of Sacramento the deaths among Chinamen, occurring from the same causes that were observed among this class of immigrants at San Francisco, and in the same months, viz., twelve.

If we take this from the apparent mortality of Sacramento, the ratio of deaths to the population would be one in fifty-one, or a little more than one half the ratio observed in San Francisco. On a previous occasion, the comparison with other years gave us a like relative result.

Notwithstanding the existence of facts like these, placed by the journals of the day within the reach of every one to make the calculation for himself, erroneous views are yet entertained, even within the limits of the State, upon this subject. In 1850, and again in 1852, Sacramento was visited by a scourge, which threatened at one time in the former year to depopulate her streets. The remembrance of this dire calamity yet hangs like an incubus upon the sanatory reputation of the city, is indelibly associated with its history, and enters into all computations even of its present salubrity. The pestilential air of cholera even yet contaminates the breezes which fan, by their refreshing breath, the heated brows of the inhabitants, and the south wind, which sweeps up from the broad Pacific, and the north wind, which brings upon its wings the currents fresh from the snowy summits of the cascades of Oregon, are alike freighted with the subtle exhalations of the plague.

The salubrity of either city might easily be shown to be superior to almost any other large city in the world, as their climatic peculiarities are immeasurably above any portion of the Atlantic States. Yet, compared with each other, it is but just to admit the evidence of facts in establishing the superior advantages of Sacramento in a sanatory point of view.

As we progress in the review of the portion of the State to which the preceding pages are designed more particularly to refer, we find the subject so rapidly increasing in interest, and embracing so great a variety of topics, that we have already extended our remarks beyond the limit assigned to them. We believe that in the main, and as far as they extend, they may be found to convey a faithful portraiture of the climate during the period they include. We trust they may at least serve to correct some of the erroneous opinions entertained of the climatic characters of the Sacramento Valley, however imperfectly they may have portrayed its natural beauties and intrinsic excellences. It is no vain assertion, it is no unsubstantial theorem, to say, that in all that is adapted to advance the happiness, to secure the comfort, to expand and improve the physical organization of a population—in short, in all that can make life a blessing, and add to existence its serenest joys, no climate or region of which we have any knowledge can excel that of portions of the State in which we live. In it may be found almost every variety which the world affords, from plains burning beneath a tropical sun to the ice-bound cliffs and impassable snows of the Sierra Nevada. Spread over its vast extent of territory are some of the most fertile valleys in the world; fields rich in an exuberant harvest of agricultural productions, unexcelled in abundant fruitfulness, and fragrant with the perfume of innumerable flowers. Here the vine spreads its luxuriant branches, and multiplies its delicious clusters, unchecked by the frosts of winter; and here too the fig, the lemon, the olive and the orange expand their fruit beneath the genial sun. Side by side, the miner and the husbandman may dig the earth, and each, according to his own desires, may reap the harvest, while every where balmy breezes cool his brow, and health invigorates his energies. In a word, in fertility of soil, in the intrinsic elements of wealth, in the salubrity of the atmosphere, in the agreeableness of the seasons, the State and the climate are infinitely superior to those of any other section of the United States, and unexcelled by any in the world.

SACRAMENTO, (Cal.), April 4th, 1855.

ART. II.—*Remarks on the Invariable Existence of a Premonitory Diarrhœa in Cholera.* By DAVID MACLOUGHLIN, M.D., of London, England.

IN the number of the *New York Journal of Medicine* for January, there is an article published by Dr. Hutchison, in which my name is mentioned with reference to the inquiry into the invariable existence of a premonitory diarrhœa in Cholera.

As the question whether there is, or there is not, invariably a premonitory diarrhœa in Cholera, is one of science, and one of the most important connected with the pathology of the disease, permit me to solicit the favor of a place in your Journal for my answer to Dr. Hutchison's six cases, which he has brought forward to prove that Cholera is not invariably preceded by a diarrhœa—so that the readers of your valuable periodical may be the umpires between this writer and myself, and may be enabled to decide which is right.

When Cholera first attracted attention as an epidemic, the vomiting, spasms, &c., the stage of pain alone attracted attention; the stage of diarrhœa, which was sometimes noticed, was considered as an epidemic, and was supposed only to weaken the patient and thereby render him more liable to be acted on by the Cholera poison.

Thus cholera was supposed to be an entity, a disease *sui generis*, independent of, and a superfœtation on, diarrhœa. If cholera is an entity, a disease *sui generis*, independent of, and a superfœtation on, diarrhœa, innumerable cases must be found where it has attacked persons in perfect health and free from diarrhœa. And to settle the question, whether cholera is, or is not, invariably preceded by diarrhœa, I undertook the inquiry, and gave the result in a pamphlet, under the title "*Result of an Inquiry into the Invariable Existence of a Premonitory Diarrhœa in Cholera.*"

I beg to repeat here, what I have elsewhere again and again stated, that I have now witnessed five outbreaks of epidemic cholera; that I have sought with all the care in my power, assisted by some hundred medical gentlemen, for a case of cholera without a premonitory diarrhœa; and that, although many thousand cases have been inquired into, not one single case has been discovered as an exception to the rule first laid down, in a letter addressed to the Registrar General, and published in his weekly return of births and deaths on the 24th September, 1853. In this communication it is stated that diarrhœa for a few hours, or for a few days, or for a few weeks, invariably precedes the attack of vomiting; spasms, etc., precede the attack of what, heretofore, was called cholera.

In a subsequent letter, also addressed to the Registrar-General, and inserted in the *Medical Times* of the 7th November, 1853, it was first pointed out what was meant by a premonitory diarrhœa, viz., that it was the time which elapsed from the first liquid evacuation to the first cramps. This was called the premonitory time, and all the evacuations which occurred during that time constituted the premonitory diarrhœa.

Dr. Hutchison has brought forward six cases to show that the above rule, as to the invariable existence of a premonitory diarrhœa in cholera, is not without exceptions; but I hope Dr. Hutchison will forgive me if I say that he has, by his own showing, proved that these six cases had had a premonitory diarrhœa; for he says that case the first and case the third were attacked "with vomiting and purging a thin, watery fluid." Now every pathologist knows that the colon and rectum of a healthy individual, free from diarrhœa, contains fæcal matter; and every pathologist also knows how difficult it is, even by strong and repeated doses of purgative medicine, to carry off all this fæcal matter, and induce the watery stools.

Since Dr. Hutchison says nothing of the presence of fæcal matter in the evacuations, we must infer the fæcal matter had been washed away by previous evacuations; and therefore, by Dr. Hutchison's own showing, his patients must have had a premonitory diarrhœa.

In case the second it is said that the person was seized with severe vomiting and purging, and it is added that the patient had no cramps.

Here the existence of a diarrhœa cannot be doubted, but no pains appears to have been taken to ascertain the existence of cramps, so as to mark the cessation of the premonitory stage, and the beginning of the stage of cramps, &c. Because an individual does not scream out, or does not say that he does or does not suffer pain, we surely must not conclude that he has no spasms in his fingers and toes, or so slight as not to excite his attention, and which can be ascertained only by carefully watching these extremities. Besides, it must not be lost sight of that females endure pain with greater fortitude than males. And it must not be forgotten that the degree of spasms in cholera ranges from emprosthotonos or opisthotonos, to the slightest possible sudden contraction and sudden relaxation of the muscles, and which, I repeat, cannot be discovered but by watching the fingers and toes of the patient.*

Therefore, as Dr. Hutchison has not told us whether he had or had not carefully watched, or caused to be carefully watched, whether the fingers or toes were or were not suddenly contracted by spasms and as suddenly relaxed, it cannot be admitted that he is authorized to say that his patient had no spasms, and that therefore it was a case of cholera, without a premonitory diarrhœa, and without spasms.

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* In Case the 8th, in the *Result of an Inquiry into the Invariable Existence of a Premonitory Diarrhœa in Cholera,* the child gave no evidence, by crying or complaining, that she had spasms; but the mother, by watching the fingers and toes, saw that she had spasms.

In the fourth, fifth, and sixth cases Dr. Hutchison admits that each had a premonitory diarrhœa for an hour; but I hope that the Doctor will forgive me if I say that these cases are not reported in such a manner as to satisfy the mind that they were in perfect health, and free from diarrhœa at the time they are reported to be attacked with vomiting and purging. Nothing is said about their usual habit of body, whether they were accustomed to have one or two evacuations daily, or one only every second, third, or fourth day; whether the evacuations were or were not for a few days previous of the usual consistence, and whether the patients were or were not annoyed by more borborygmi than usual, and especially between one and five in the morning.

The mere statement of patients that they were perfectly well, that they slept well, that they ate their food as usual, is no proof that they were not laboring for a few hours, a few days, or a few weeks, under diarrhœa. For too often we find that persons who are laboring under painless diarrhœa do not believe themselves ill, because they have no pain; and we find them walking about for amusement, or for business, or employed in-doors at their usual occupations, with the cold, cyanic state of their skin, and with the cold, clammy dew of death all over their body, the heart having ceased to beat, and the blood to circulate.* And yet these persons will say that they are quite well; that they feel as strong as ever, except, possibly they may add, that they cannot speak so loud as usual; and possibly in a few minutes after these persons are struck down by spasms, vomiting, etc., and cease to breathe in three, four, or five hours after, to the astonishment of all who are not aware of the insidious advance of the disease.

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* In such cases I have opened the femoral and brachial arteries without obtaining a flow of blood.

Therefore, as Dr. Hutchison has not entered into the detailed statement of the previous health of these three individuals, prior to the time he says they were seized with vomiting and purging, we must conclude that he has not shown that his patients were perfectly well, and free from diarrhœa up to the time he says they were attacked with vomiting and purging. And therefore he has not shown that his patients had a premonitory diarrhœa for one hour only.

In conclusion we must say:—

1. That cases first and third had, by Dr. Hutchison's own showing, a premonitory diarrhœa.

2. That case the second had a diarrhœa; but no care was taken to ascertain the existence of spasms so as to mark the premonitory stage, and the stage of cramps, etc.

3. That cases fourth, fifth, and sixth, had each a premonitory diarrhœa for an hour, by Dr. Hutchison's own admission; and, further, the report of these cases are such that they do not justify the conclusion that those individuals were in perfect health, and free from diarrhœa, before the moment at which they are said to have been first attacked with vomiting and purging. And

4. That we must therefore conclude, that these six cases form no exception to the rule laid down, that Cholera is invariable preceded by a diarrhœa for a few hours, a few days, or a few weeks.

I wish to add that, since the publication of the "*Result of an Inquiry into the Invariable Existence of a Premonitory Diarrhœa in Cholera,*" epidemic Cholera has again raged in London, and that I have again resumed the inquiry into the invariable existence of a premonitory diarrhœa in Cholera. Assisted by thirty-three gentlemen, we have examined one thousand and ten cases, and have found that every case was ushered in by a premonitory diarrhœa.

During this outbreak of Cholera in London, the St. Thomas, the St. Bartholomew, the Westminster, the Homeopathic, the St. Mary's and the University College hospitals, have carefully inquired into the previous history of each case admitted into their wards, and they have reported that every case had a premonitory diarrhœa.

In 1849 the form of a Register was pointed out at Poplar Union, which was to contain not only the names, residence, &c., but all the details about the previous history of the patients, and especially, whether they had or had not had a premonitory diarrhœa, before the attack of spasms, vomiting, &c. This Register has been most carefully kept by the indefatigable and intelligent clerk of the Union—Mr. Simons—who has daily collected the reports from the medical gentlemen and inserted them in their proper place.

The Register contains the full reports of eight hundred and seventy-two cases of Cholera, all that have occurred in the Union since 1849, and thirty-six medical gentlemen, who attended these cases, have certified that all had a premonitory diarrhœa.

It follows from this mass of facts that the invariable existence of a premonitory diarrhœa in Cholera cannot now be questioned, and henceforth we shall not be told that Cholera is an entity, a disease *sui generis*, independent of, and a superfœtation on, diarrhœa.

We now know that Cholera is the consequence of diarrhœa, the last stage of phlegmoniagy, as spasms, convulsions, &c., are the last stage of fatal hemorrhagy.

34 *Bruton St., Berkeley Square, March* 7, 1855.

Art. III.—*Observations on* Dr. Markoe's *Report of Cases of Dislocation of the Femur, treated by Manipulation.* By W. W. Reid, M.D., of Rochester, N. Y.

The January number of the *New York Journal of Medicine*, for 1855, contains a lucid and able report from the pen of Thos. M. Markoe, M.D., one of the attending surgeons of the New York Hospital, giving a detailed account of fourteen cases of dislocation of the femur, "treated by manipulation alone, after the plan proposed by W. W. Reid, M.D. of Rochester."

It is not my purpose to undertake a critical review of the report before us; but to offer, first, some remarks and suggestions on Dr. Markoe's observations on the dangers of Manipulation, and on the cases adduced in proof, and to correct an error into which he has unwittingly fallen. And secondly, to notice, some points of difference in the mode of operating, as practiced in the New York Hospital, as it is alleged that it was found necessary to deviate somewhat from that recommended and employed by myself; hoping thus, by discussion and a comparison of views, to elicit truth.

After describing in detail thirteen of the cases included in his report, Dr. Markoe proceeds to discuss the merits of the mode of operating by Manipulation—the rationale of the process—its advantages and its *dangers*. On this latter subject, he observes:

"Every thing in our experience thus far seems to indicate, that this method of reducing luxations is as safe, if not safer, so far as the integrity of the joint and its after usefulness is concerned, than reduction by forcible extension with the pulleys. The method, however, is not without its dangers, and these mainly arise from the immense amount of force which can be exercised by acting on the long arm of so powerful a lever as the whole limb, while the short arm has at most a length of three inches. By the *inconsiderate* or *misdirected** action of this lever force, one of three accidents 'might be produced,' viz.:—The muscles might be torn from their attachments—or the surrounding tissues might be lacerated and contused; or lastly," he observes, "it seems to me very possible that the neck of the bone might be broken by too violent abduction, forcing it against the side of the pelvis."

In reply to this it may be observed, that the whole manipulatory process, as proposed by me, is founded on the principle of relaxing and relieving muscles that are already put upon the stretch. This mode of operating is based upon the discovery, or supposed discovery, of the fact, that the distended or stretched condition of the abductor and rotator muscles constitutes the chief impediment to reduction of the dislocation in question, and not the contraction of the extensor and flexor muscles as theretofore taught in all works on Surgery; and that extension applied to the limb by pulleys or otherwise, only increases the distention of the aforesaid abductors and rotators, and consequently, increases the difficulties of reduction, while it greatly enhances the danger of rupturing said muscles, or of fracturing the neck of the femur. But the mode of manipulating as proposed and employed by me, most perfectly avoids all these difficulties and dangers. It is true, that by "*inconsiderate and misdirected action*," accidents may happen. But the same is true of the simplest operations in surgery—even of phlebotomy.

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* Italics in all cases are ours.

From the experiments and observations which I had made, I had deduced the following propositions and rule:

"1. The chief impediment in the reduction of dislocations is the indirect action of muscles put upon the stretch, by the malposition of the dislocated bone, and not in the contraction of muscles that are shortened, [as heretofore taught].

"2. That muscles are capable of so little extension, beyond their normal length, without hazard of rupture, that no attempt should be made to stretch them further, in order to reduce a dislocation, if it can possibly be avoided.

"3. The general rule for reducing dislocations should be, that the limb or bone should be carried, flexed or drawn in that direction which will relax the distended muscles.

"This general rule will apply to all luxations, but especially to the several varieties that pertain to the hip-joint."

But Dr. Markoe does in fact obviate his own objection, and substantially confirms my own experience, and the principle involved in the foregoing propositions and general rule. He says, "as far as my recollection serves me, and I myself assisted in almost every case reported, *we never have accomplished any thing by proceeding in a direction where great force was required* to continue the movement, *but have always succeeded by finding a direction* in which the mere continuance of the movement *without force* has brought the head into the proper position." Hence the importance of studying the anatomy of dislocations—of every kind of dislocation to which each joint is subject, before we proceed to operate by mere brute or mechanical force, regardless of the condition or action of the muscles. Otherwise, any house-carpenter or ship-builder, who knows how to apply a tackle or pulley, might operate just as well as a surgeon. So too, before we operate by manipulation, it is equally important to understand the direction and action of the *dislocated muscles*, as well as the position of the bone, unless we would stultify ourselves and proceed empirically and hap-hazard, "by making bending movements of the limb in every possible direction," as was recommended by Dorsey.

But notwithstanding Dr. Markoe had so completely replied to his own objection, or apprehension of danger from manipulation, he immediately after observes: "The above report had been prepared for the press, with the exception of Case 13, which has since occurred, when a case presented itself which offers some points so important in their bearing upon what has been said, that I add the history," etc. Although it is not said that the forth-coming case confirms his apprehensions of danger, but only that it "offers some points important in their bearing upon what had been said." But what had been said related only to danger by manipulation. The reader's mind is therefore prepared to expect an accident, or something that will somehow or other prove reduction by manipulation a more hazardous method than he had been taught to believe it to be. Case 14 is then introduced:—

"A man of good muscular development, forty-two years of age, with dislocation of the left femur on the dorsum, of seven weeks' standing. [This should be noted]. Two days after admission—ether and Reid's manipulation were tried. The head descended as usual, until it came opposite to the lower margin of the acetabulum, but from that point, *as the limb was brought down, it slipped on to the foramen ovale.*

The manipulation was repeated several times with all care, varying the degree of abduction on the various trials, but without success." * * * "Manipulation was abandoned, and the pulleys ordered to be applied. But before this was done, it was thought best to place the head of the bone on the foramen ovale, and from that point to try and reduce it by the usual method recommended by Sir Astley Cooper. The head was accordingly placed on the foramen, and while the upper part of the thigh was grasped by an assistant, and lifted strongly outward, I took hold of the ankle and made extension and abduction. The head seemed not to move at all under this force, and while making *strong abduction*, a crack was heard, every thing became loose about the joint, and on examination it was evident that a fracture of the cervix had taken place, leaving the head in the foramen ovale." Dr. Markoe very frankly admits and says: "It must be observed that the new plan is entitled to none of the blame of the fractured cervix. The accident took place, after Reid's manipulation had been abandoned, and while we were attempting the reduction according to the old established and classical method."

We would direct attention to one more "point" in this case. The report proceeds: "we were all surprised at the slight amount of force which was competent to produce such a mortifying accident." Dr. Markoe seems to have forgotten his own just reasoning and very proper caution, which, he tells us, had been committed to paper on the morning of the very day on which this accident happened. He forewarns us of the danger that arises "from the immense amount of force which can be exercised by acting on the long arm of so powerful a lever as the whole limb, while the short arm has at most a length of three inches." It must be confessed that this accident affords a striking illustration of the danger of *misapplied* force, as well as of the importance of the caution alluded to above. But how slight might be the amount of force employed in this case? Let us make a small calculation.

The length of the limb of a medium-sized man, from the trochanter to the ankle, is about thirty inches. This constitutes the long arm of the lever. From the trochanter to the head of the bone, measuring along the neck, might be two or three inches; but standing off, as it does, nearly at a right angle from the shaft, the point or distance, where the force would be exerted, and which must be estimated in a right line with the femur, would not measure over one inch from the trochanter, and would constitute the short arm, while the trochanter would be the fulcrum. Now the power, in this instance, would be to the resistance to be overcome, inversely as the long is to the short arm of the lever. Hence ten pounds applied at the ankle would be equal to three hundred pounds at the head of the bone; for the long arm is thirty times longer than the short one; that is, 30+ 0= 300. But a muscular man, making "strong abduction" at the ankle, as we are told was done in this case, might exert a force equal to thirty or forty pounds and not be conscious that he was employing any thing more than a "slight amount of force," but which, in fact, would be equal respectively to nine and twelve hundred pounds on the head of the bone. Would this be a force sufficient to fracture the cervix?

But to return to the points in this case, having an important bearing on the danger of fracture by manipulation; we find they are all on the other side of the question, and prove the danger to pertain to the "old-established and classical method." The facts in this case, moreover, go still further to prove what I have endeavored to inculcate as one of the most important points relating to luxations and their reductions, viz., that muscles are so little capable of extension beyond their normal length, that no attempt to stretch them further should be made, when already stretched, as in luxations they must be. Take the case above narrated for an example. The head of the bone is on the foramen ovale; consequently all the muscles about the joint are put upon the stretch, except the quadratus and obturator externus. The proas magnus, iliacus internus, and glutei are the most stretched, and hence the partially flexed and abducted state of the limb. These muscles hug the head of the bone firmly in the foramen, and any attempt to abduct the limb would be resisted with all the power inherent in the glutei muscles, the largest about the joint; and being already stretched, they could not yield; the head of the bone could not move, except to be buried more deeply in the foramen, and be more immovably fixed; strong abduction, therefore, must endanger, either rupture of the glutei or fracture of the cervix. The latter being the weakest, would of course yield first. What is the proper kind of manipulation for the purpose of relaxing the distended muscles in cases of dislocation on the foramen ovale, it is not my purpose now to discuss, but I would simply remark that the mode employed in reducing Case 9, described in the report, with a slight modification, is probably the true one; and as Nos. 8 and 9 were both cases of dislocation on the foramen, and both successfully reduced by manipulation, it is a wonder that the same modes were not attempted in this unfortunate Case 14.

Notwithstanding manipulation was fully exculpated from all blame for the accident occurring in the foregoing case, while the guilt was fully proved against the "old classical method," yet a case had come to light directly to the point. In the closing paragraph of his Report, Dr. Markoe informs us that he had received a note from Dr. Watson, who "speaks of a fact which he [Dr. Watson] says, I have on undoubted authority, viz., from one of the Professors in the school of medicine in Toronto, Ca., that an accident similar to that of Case 14, occurred in that city, while the surgeon was attempting to reduce a luxation of the hip-joint by Reid's method."

I have taken special pains to ascertain the verity of this "fact." And, so far as it is possible, I am prepared to prove a negative—that no such case or accident has occurred in the city of Toronto. Both Drs. Watson and Markoe have been imposed upon. It is due, therefore, to the science of surgery, to the profession, and to myself, that this false fact should be corrected; the more especially, as I have recently learned that it was published in the *New York Medical Times* for June, 1853.

Soon after I received a copy of Dr. Markoe's Report, I called on my friend, Dr. Armstrong, now of this city, but formerly a resident of Toronto, and requested him to write to some of his medical friends of that city, and ascertain the facts. He did so; and, moreover, having occasion soon after to visit Toronto, he made personal inquiries of several of the Professors, and other prominent medical gentlemen of that city, respecting the case in question. The following letters will show the result of his investigations:

TORONTO, *Feb. 5th*, 1855.

My Dear Doctor,—I have made careful inquiry concerning the case of fracture of the cervix femoris, whilst reduction according to Reid's method was being tried, which case, you say, Dr. Markoe, of New York, mentions as having been reported to Dr. Watson, of New York, by one of the Professors in the school of medicine at Toronto. I am satisfied that no such case ever occurred here. It certainly did not in the General Hospital, and no one here ever heard of its occurrence in private practice; so that in all probability it never did occur. I quite agree with you that it is of very great consequence to settle the points, if possible, conclusively; and I will, therefore, continue my inquiries, and report to you again as to the result.

Believe me, dear doctor, yours truly,

JAS. H. RICHARDSON.

DR. ARMSTRONG, Rochester, N. Y.

TORONTO, *Feb. 15th*, 1855.

Dear Sir,—I have no hesitation in stating that no such case as the one mentioned by Dr. Markoe, of New York, concerning which Dr. Richardson has made inquiry, has occurred in this Hospital during the period I have been connected with it as surgeon, now upwards of eight years. I may also state that it is my belief no such case ever took place in this city. I have never heard of the cervix femoris being broken, or of any other accident having happened during an attempt to reduce a dislocation of any kind in this institution.

You are at liberty to make what use you think proper of this communication, in order to advance the interests of surgical science.

I am, dear sir, yours sincerely,

E. Clarke, F. R. C. S., Esq.
Resident Surgeon, Toronto Hospital.

Dr. Armstrong, Rochester, N. Y.

Rochester, *March 9th*, 1855.

Dr. W. W. Reid—

Dear Sir,—Agreeably to your request made a few weeks ago, I wrote to Dr. Richardson, of Toronto, asking him to make inquiries and inform me as to the particulars of an alleged case of fracture of the cervix femoris, said to have taken place in that city, and referred to by Dr. Markoe in the January number of the *New York Journal of Medicine.*

I have since received a letter from Dr. Richardson, also one from E. Clarke, F. R. C. S., Esq., resident surgeon of the General Hospital of Toronto, both of which are herewith transmitted, and are at your service.

Besides Drs. Clarke and Richardson, with whom I had several interviews during a late visit, I also met Drs. Telfer, Philbrick, Wright, and Aikin, all of whom assured me in the strongest terms that no such case as that referred to by Dr. Markoe had taken place in Toronto. In addition I would merely say, that, so far as I could learn, your method of reduction has not been tried in Toronto.

Very respectfully, yours, etc.,

E. W. Armstrong.

Having thus disposed of the supposed dangers attending the manipulating process *proper*, it is with great deference to Dr. Markoe, and his associates, whose more ample field of observation and experience entitles their opinions to greater weight, that I venture to make a few remarks and suggestions on their mode of operating compared with that of mine.

When discussing the rationale of the process, Dr. Markoe says: "that by flexion of the thigh upon the trunk, the head is caused to pass down and below the acetabulum, and then, by carrying the knee out so as to abduct the limb, the head comes toward the lower portion of the acetabulum, where its margin is least prominent. At this point I wish it to be observed that our mode of procedure varies a little from Dr. Reid's. He recommends, when the head is brought by abduction close to the lower edge of the acetabulum, that by *the rocking movement already described* it be caused to slip in. This is well, and will probably answer in many cases, but *it failed us so completely from the first* that we were led to add *the bringing down of the thigh to the straight position in a state of abduction, still keeping up the rocking motion*, and it has been uniformly in the act of bringing down the limb that the reduction has been accomplished."

"By the rocking movement already described," Dr. Markoe must mean the one which he himself had described in Case No. 1, viz, "a rocking by moving *the leg* backward and forward." I had described an oscillating motion of *the thigh*—not of *the leg*. Suppose the thigh to be flexed at a right angle, or at one a little less or greater, with the trunk, and gently or forcibly abducted, so that the polished, globular head of the bone is poised, as it were, upon the smooth ridge of the great arm of the os ischium, close to the rim of the acetabulum, in which position the pyriformis, gemini, obturator internus and externus muscles are all upon the stretch, what effect would these muscles have upon the head of the bone, whenever *the leg* was carried *outward*, during the aforesaid "rocking motion?" It seems to me most evident, that they must drag it either downward into the foramen ovale, or backward and upward into the ischiatic notch or on the dorsum ilii, according as the one or the other set of muscles happened to be most irritated and stimulated to contract; and that if the head took neither of these directions, but went into its socket, it did so, as it were, by accident. And this seems to have been the experience of the New York Hospital surgeons. For, of the eleven cases reported as occurring in the Hospital, eight were successfully reduced by manipulation, but only two of these on the first trial. In reducing these eight cases, however, there were at least twenty unsuccessful attempts; the head of the bone slipping downward and backward, without going into the socket, that number of times. A similar accident happened in one of the cases reported by Professor Parker. But what were the several steps of his manipulations, we are not informed. It is simply said, that he employed Reid's method. The failures then were to the successes as twenty to eight, or, if we include the case of Professor Parker, as twenty-one to nine. Failure, therefore, would be the rule and success the exception.

These accidents, it seems to me, must be attributed either to the "rocking motion of the leg"—to the too forcible abduction of the thigh, or to the bringing down of the limb before the head had entered the socket, or to any two or all three of these causes combined.

The method of manipulating, as employed and described by me in the article published in the *Buffalo Medical Journal* for August, 1851, and again in the proceedings of the State Medical Society, February, 1852, was as follows:—"Let the operator stand or kneel on the injured side, seize the ankle with one hand, the knee with the other, then flex the leg on the thigh, next strongly abduct it, carrying it over the sound one, and at the same time upward over the pelvis, by a kind of semicircular sweep, as high as the umbilicus; *then abduct the knee gently*, turn the toes outwards, the heel inwards, *and carry the foot across the opposite* *and sound limb, making gentle oscillations of* THE THIGH, when the head of the bone will slip into its socket."

"Gentle oscillations of *the thigh*," while the head of the bone is poised upon a mere point, as before described, and while the foot and leg are directed towards and across the opposite limb, and steadily held in that position, will be found, I apprehend, to be "a procedure that varies [not] a little" from that recommended by Dr. Markoe, viz., a rocking motion of *the leg*, while the thigh is being brought to the straight position *strongly abducted*.

When the thigh is flexed on the trunk, say at an angle of 45°, and is gently abducted, and the head of the bone thus brought close to the lower edge of the acetabulum, if, while gentle oscillations of the thigh are made at the knee, it—the head—does not immediately enter the socket, the knee should be alternately elevated and depressed, thus varying the angle of the thigh. If, by this manœuvre, alternated with the beforementioned oscillating or lateral movement, the head does not enter, we should then cease all motion, and hold the thigh and leg perfectly quiet, for a short period, keeping the former still slightly abducted; and thus give the irritated muscles, ligaments and tissues time to become quiescent, and to accommodate themselves to the new position of the bone. The foot and leg must be kept still also, and firmly directed towards the opposite thigh, for, if we relax or carry it outward, we shall roll the head of the femur away from its resting place and proximity to the acetabulum, and permit, if not provoke the muscles, as already described, to draw it downward into the foramen ovale or backward into the ischiatic notch or dorsum ilii. After a short time we may repeat our attempts as above described, and in all suitable cases — that is — cases of dislocation on the dorsum or into the ischiatic notch, and of not over four to six weeks' standing, we may confidently anticipate a speedy and favorable issue.

The accidents which occurred during the manipulations of Dr. Markoe and his coadjutors, with the exception of one, in Case 14, were by no means serious; they were in fact discoveries, and afford us valuable lessons and suggestions. It is certainly something new in the annals of surgery, that a surgeon can, at his pleasure, convert any one of the four kinds of dislocation of the hip-joint into any one of another kind. With this additional knowledge, which furnishes us with a choice of position from which to attempt reduction, or, if one fails, to try another, it seems to me, that these heretofore most formidable luxations of the femur may hereafter become, when the modus operandi by manipulation is better understood, quite trivial affairs, and be reduced with as much, if not greater facility, than now obtains in reduction of the shoulder joint.

I feel unwilling to dismiss this subject, without adverting once more to the inapplicability and detrimental action of direct traction on the femur by pulleys, Jarvis' Adjuster, or any other power, for the purpose of reduction of the hip-joint. The facts presented in this report of Dr. Markoe alone, to say nothing of hundreds of similar ones, that may be collated from medical journals and works on surgery, would be enough to make men (keen observers and acute logicians on other subjects), pause and inquire, if they were not utterly blinded by authority and custom. In Case 1, Jarvis' Adjuster was applied, and "broke on the first trial," without producing the least effect on the joint, "although the patient was etherized to the extent of complete relaxation." In Case 13, "the pulleys were faithfully and for a long time employed. The head descended, but would not enter the socket. * * * Jarvis' Adjuster was thoroughly tried, until the steel shaft bent, but without success." Bars of steel, brass and iron broken in stretching the living muscles and tissues!! The following case occurred in this country, some eighteen miles from Rochester, in the fall of 1852. A young man, twenty-one years of age, dislocated his left femur on the dorsum. On the day following, two surgeons, with the aid of five or six men, made extension for a long time, and supposed they reduced the bone. Some five weeks afterwards, three other surgeons were consulted and pronounced the bone out. The patient was put into a machine—a kind of windlass—and extension was continued for several hours, but without success. A few days afterwards, he was bled and put under the influence of chloroform, when Jarvis' Adjuster was applied, but it bent or broke, without effecting any thing. A day or two thereafter, he was again bled and took chloroform, when the pulleys were applied and extension kept up, as I am informed, for several hours. But all to no purpose. The bone is still out and the young man a cripple for life, after enduring tortures little short of crucifixion. On the forty-seventh day, about *seven weeks* after the accident, he was brought to me. At this time, the limb was three inches shorter than the other; the muscles of the whole limb, but especially about the hip, were flaccid and emaciated, so that the limb was considerably smaller than its fellow; rotation and abduction were quite free; the head of the bone could be distinctly felt on the dorsum. *In the* presence of, and assisted by several medical gentlemen of this city, I endeavored to reduce by manipulation. Several attempts were made by myself and others, and persevered in for two hours, but without avail. The head of the bone could be both felt and seen to mount upon the edge of the acetabulum, but could not be made to enter. It was quite apparent, that the capsular ligament had healed and formed new and strong attachments around the neck of the femur, which attachments prevented the entrance of the head, and which it were unsafe to attempt to rupture by mere force applied to the limb. And if the head of the bone had gone in, carrying the ligament before it without rupture, in the form of a cul-de-sac, it is quite certain that a spontaneous re-dislocation, as it were, would have occurred in a short time afterward; as was probably the fact, in case No. 3 of Dr. Markoe's report—a case of *twelve weeks'* standing. In his unfortunate Case 14, in which fracture of the neck happened, and which was of *seven weeks'* standing, there were, no doubt, strong attachments of the capsular ligament, which prevented the head of the bone from entering the socket, for it could be made to move freely around the rim of the acetabulum, but would not mount over it. Querè: Would not the true mode of operating in cases of this kind be to make an incision down to the head of the bone, and open the capsular ligament, sufficient to admit the return of the head into its place?

But to return from this digression, which seemed necessary in order to complete the history of the foregoing case, I repeat, that traction on the femur is force misapplied—is unphilosophical and absurd, contra-indicated by the anatomy of the dislocated joint, and by the plainest laws of mechanics. This I have attempted to demonstrate in former papers, and shall not dwell on it now, but simply observe, that it seems to me impossible for any one, having the slightest knowledge of anatomy and of mechanical philosophy, to fail to perceive, that extension of the thigh, when dislocated in the dorsum or into the ischiatic notch, must powerfully abduct it, and therefore cause the already distended muscles, especially the obturator externus, to bind the head of the bone more firmly behind the brim of the acetabulum, and thereby prevent its mounting over it, except at the expense of the rupture of muscles, or ligaments, or both. The amount of power exerted by pulleys, Jarvis' Adjuster and similar machines, is unknown. It must be very great, but how great has never been carefully estimated.

The impediments to reduction by direct extension of the femor, I have heretofore considered to lie chiefly in the resistance of the six rotator and abductor muscles, which are put upon the stretch, and which are incapable of any further extension without danger of rupture. From the experiments which I had made on muscles, I had drawn the conclusion that they were incapable of any practicable degree of elongation beyond their normal lengths, without rupturing them more or less. Since the publication of these views, Prof. E. M. Moore informs me that he has been in the practice, during his terms of lecturing on surgery, of exhibiting before the students, on the cadaver, both modes of operation—that is, by extension and by flexion or manipulation—that one of his illustrations consists in removing all the muscles about the hip-joint, then puncturing the capsular ligament, and dislocating the bone on the dorsum. He says, when this is done, the limb always assumes the same position of *abduction* and *inversion* that it does in the living or dead subject, when the muscles are in situ and entire. Having dislocated the bone as above described, he now attempts to reduce, by extension made in the manner recommended by all surgical writers. The extending cord is put into the hands of one or more students, and Dr. Moore says he has always found that the strength of *two men* were necessary to bring the bone into place, although there was nothing to prevent it but the remains of the untorn portion of the capsular ligament, which is stretched across the acetabulum and binds the bone behind its rim. While on the other hand, when reduction was effected by manipulation, no more force was required than was sufficient to support the weight of the limb, to flex and rotate it gently while the head was resting on the edge of the acetabulum; to do all which required much less than the whole strength of one man. But he observes, that the head never enters the socket, even under these favorable circumstances, without tearing up another portion, more or less, of the capsular ligament from its attachment at the edge of the acetabulum. He states moreover a fact, which I had myself before observed, that when the muscles about the joint are entire, if the femur is flexed on the trunk and abducted, the glutei muscles are stretched, and then their broad tendons compress the trochanter, and powerfully assist rotation and abduction, to urge the head of the bone into the socket; very much as might be done by the hands, if placed over the trochanter, but much more efficiently. But if the thigh is brought down to a right angle or lower, the tendons of the glutei are relaxed and we thereby lose all the advantage which they would otherwise afford us—another cogent reason for not bringing down the limb towards the straight position, before the head enters the socket.

The experiments which I had made for the purpose of determining the extensibility of muscles; were made on those of sheep, which had been killed from one to two days —that is, on the dead, but still fresh muscle. Soon after I had made known the results and my views, Drs. Bly and Moore performed, a series of experiments on the living muscle; viz.: of wethers two years old. The animal was suspended in strong canvass cloth, with one fore leg projecting through a hole, rendered unyielding by firmly binding or hemming the edge. The skin was removed from the knee, for the space of six inches. The ligaments of the joint only were divided, the muscles being left intact; weights were suspended from the foot, and added by degrees, fourteen pounds at a time. Four different experiments were made on as many different animals, with very nearly the same results. The following tabular view of the fourth experiment will explain the whole :

No. of lbs.	32 scds. In.	No. of lbs.	32 scds. In.	Remarks.
9	2	163	13*	The second and fourth columns show the distances in thirty-two second parts of an inch, to which the articulating surfaces were separated on each addition of fourteen pounds.
23	4	177	14	
37	5	201	14*	
51	6	215	15	
65	7	229	15*	
79	8	243	16	
93	9	257	16*	
107	10	271	17	
121	11	285	17*	
135	12	299	18	
149	13	313	18*	
		327	18½	

* Thirty-two secondths of an inch, or about five-eighths.

After two hundred and forty-three pounds had been added, the whole were removed, when the parts regained their normal position. After these had been replaced, and more added, sixty pounds were removed at a time, the parts always regaining what they had lost by the addition of that number of pounds. But when three hundred and twenty-seven had been reached, the leg of the living sheep was completely torn off at the shoulder joint. This happened in every instance, with a weight not varying over fifteen pounds from three hundred and thirty, being sometimes less, sometimes greater. This rupture always took place at the shoulder, never at the knee, although the ligaments of the latter were divided, while those of the former were entire. From these experiments it will be seen that the living muscles were extended about five eighths of an inch beyond their normal length, and regained or contracted to their original position. But Dr. Bly acknowledges that the joint was not very firm; that the muscles seemed rather lax. The results of his experiments compared with those of mine are so diametrically opposite, it is evident that one or the other must be in error —that, contrary to my conclusions, muscles must be elastic, and capable of extension beyond their normal length—and if so, then the distended muscles of a dislocation constitute, not the primary but the secondary impediments to reduction, while the ligaments constitute the primary and chief. This subject needs further investigation by others, who have more ample facilities.

One word on the use of ether and chloroform in reduction of luxations. Believing, as I do, that muscles are the principal agents in producing dislocations, while the blow received is but secondary—that is, that the muscles being in a state of active contraction by force of the will, at that instant a sudden blow, taking the will by surprise, is received on the limb, and propelling it in the same direction which the contracting muscles are giving it, the bone is thrown out of place before the opposing muscles have time to resist this new impulse. I am therefore constrained to believe, also, that muscles may be made, and are, in fact, our most efficient assistants in reducing by manipulation. Consequently "etherization to the extent of complete relaxation," instead of being an advantage, is a detriment, in just so far as it prevents the contraction of the muscles required to replace the bone. Might not this have been one of the causes of so many unsuccessful attempts at reduction, which are narrated in the report of Dr. Markoe? Etherization was employed in every case reported as occurring in the Hospital, except No. 5, and that was the only one which was reduced without difficulty or mishap. The pain produced by manipulation is too trifling to require an anæsthetic of any kind. These remarks, of course, are not intended to apply to cases of luxations complicated with other severe or painful injuries, nor to reduction by forcible traction or mechanical means.

Before concluding, I beg permission to express my acknowledgments to the New York Surgeons, for the complimentary manner in which they have been pleased to speak of my efforts to introduce to the notice of the profession, this mode of reducing dislocation of the femur. It is not only gratifying to me, but honorable in them, and will doubtless be duly appreciated by the profession generally, that they have, in the spirit of true philosophy, undertaken an investigation, which the importance of the subject demanded, and have thus, by their more ample facilities and experience, put to the test, and in a good degree have established, the merits and advantages of this mode of operating. Especially is it honorable in them, when it is evident, that in certain quarters the whole thing is ignored, and there is manifested a spirit of conservatism quite as absurd as that of some forms of radicalism. And that, too, where the operators could not plead ignorance of the facts and proofs that have been adduced in favor of the method. With such men, nothing good can come out of Nazareth. The world composed of such only would remain forever *in statu quo.* The discovery of new truths, advancement in science and progress in the arts would come to an end. "The wisdom of the world would die with them."

Art. IV.—*Remarks on Hemorrhage from the Umbilicus of Infants; with a Table of Seventy-eight Cases.*[*] By Stephen Smith, M. D. Surgeon to Bellevue Hospital, New York.

The separation of the umbilical cord in new-born infants is rarely attended with difficulty or danger to the child.

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[*] Read before the Society of Statistical Medicine, New York.

The process, when healthily performed, is purely physiological, and for its perversion requires the interposition of some pathological condition.

One of the most important accidents to which this change is liable is hemorrhage. The slighter forms of hemorrhage from the umbilicus which often occur immediately after the separation of the cord, but are readily controlled, are noticed by most writers on the diseases of children. They can hardly be considered dangerous, and for the most part require but little attention.

There is a form of hemorrhage, however, occurring at the umbilicus of new-born infants of a much more grave and serious character, from its almost universally fatal termination. Our own attention was called to it by having in quick succession two fatal cases in practice; and it was with a view to its illustration that the accompanying statistics were soon after collected. Several highly-interesting papers have recently been written upon umbilical hemorrhage; and though most writers have collected a number of cases, and given the results of their analysis, no one has been to the trouble of tabulating them, and thus rendering available to others the data of their conclusions. This we have attempted to do, and the accompanying tables form the basis of the following observations.

Hemorrhage from the umbilicus is a rare affection, as is shown by the meagreness of its literature. It is scarcely alluded to by systematic writers, and rarely as an accident of which they have personal knowledge. In the Dublin Lying-in-Hospital, no cases are reported in a period of twelve years, during which there were 6,654 births.

The records of private practice confirm the opinion of the infrequency of this disorder. While it is common to meet with a slight bleeding from the umbilicus after the separation of the cord, the oldest practitioners frequently have not met this severe and intractable form. But its occasional occurrence, and especially its great fatality, render it well worthy of careful study, in order to arrive at settled principles of practice.

Etiology.—The consideration of the influence of sex, health of parents, labor, condition of child, condition and changes of cord, etc., in the production of umbilical hemorrhage, embrace most, if not all, the facts bearing upon the important question of its etiology.

Sex.—The sex most liable to this accident is the male. Statistics show that about two thirds of all the subjects of umbilical hemorrhage belong to this sex. It would appear, also, that it is more fatal among males than females.

Without being able to offer any explanation of the liability of one sex over the other to this affection, we may remark that the fact appears to be established by observation, that where the hemorrhagic diathesis exists in families, it is manifested more frequently in the male members. Some interesting cases exhibiting this tendency were reported by Dr. Rush. In one family which consulted him, the six male children were all "bleeders," of whom four died young, from slight injuries resulting in profuse hemorrhage. Dr. John Otto,[*] of Philadelphia, has related some singular examples of this hemorrhagic tendency in males. Dr. John Hay,[†] of Mass., has traced a family exhibiting this idiosyncrasy through several generations, and whenever the diathesis manifested itself, it was almost exclusively in the males. Dr. Hughes[‡] attended a family of this class, from which he gathered the following among other particulars: that the females, though in no instances sufferers from this predisposition, have, nevertheless, invariably transmitted it to their offspring. The same fact has been frequently noticed by German physicians. Dr. Riecken[§] mentions a family in which three boys and one girl died of hemorrhagy; of the grandchildren, three boys bled to death, but no female. Dr. Du Bois also speaks of a family of five boys and one girl; the latter never exhibited any symptoms of hemorrhage, while four of the former were bleeders, three having died in this manner. Many similar examples may be gleaned from medical periodicals, showing quite conclusively that much of the disparity of sexes in the liability to the form of hemorrhage under consideration, is due to an unascertained predisposition of one sex to that condition of system leading to this affection. It is quite remarkable also that this diathesis should be transmitted through the female branch without being exhibited in them personally. Some striking examples are also seen in this collection, as in the cases reported by Mr. Pout (33, 34, 35), Mr. Ray (47, 48, 49,50), and Dr. Hooker (38, 39, 40, 41). In the cases copied from the *Med. Chir. Rev.*, (53, 54, 55, 56), the mother was delicate, and suffered much from profuse menorrhagia.

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[*] *Medical Repository.*

[†] *New England Journal,* 1814.

[‡] *Transylvania Medical Journal,* April, 1834.

[§] *Edin. Med. & Surg. Jour.,* July, 1831.

Health of Parents.—The relation which the previous health of the parents has to this affection of the offspring is not very directly traceable. As far as noticed it is generally stated that the mother's health was good, and, in many instances, other children of the same parents have been healthy. From this we may justly infer that often, perhaps generally, the system of the child is alone at fault. Where, however, several children of the same family successively fall victims to hemorrhage, there can be no doubt of the transmission of a hemorrhagic diathesis. Even then the health of the parents, if noticed, is generally given as good. We have already noticed the fact that females may transmit the hemorrhagic idiosyncrasy in its utmost intensity to their children, and still, in appearance, themselves be healthy. Until, therefore, we can obtain more definite knowledge of the conditions on which the hereditary transmission of disease depends, the precise influence which the parents' health exerts over the health of the child can not be estimated. The parents may, however, confer upon the child a syphilitic taint (cases 21, 76), which would predispose it to this accident, and thus the bearing of the health of the parents may be direct upon the child.

Effects of Labor.—It does not appear that parturition has any causative relation to umbilical hemorrhage. Where it is mentioned, the labor has almost invariably been easy and uncomplicated.

Condition of the Child previously to the Occurrence of Hemorrhage.—There is little in the previous condition of the child to indicate the occurrence of hemorrhage from the umbilicus. At birth, the infant is generally well formed, and has the appearance of health. Within two or three days, however, icteric symptoms generally appear, such as sallowness of the skin, and clay-colored stools; and although infantile jaundice is ordinarily not a grave disease, it so often precedes or accompanies umbilical hemorrhage that it may be considered a symptom deserving of careful attention. A much more serious symptom is the appearance of purpura, which at once indicates a condition of system strongly predisposing to hemorrhage.

In a large number of cases there appears to exist an hereditary tendency to hemorrhage, while in others, though no such diathesis seems to have been transmitted from parent to child, a pathological condition exists which is equally as fatal in its tendency as the former. In these two classes of cases, however, there is one symptom so generally present that it may be considered as referring them both to the same general pathological state. This is jaundice followed by purpura. This jaundice may, as we have seen, depend upon closure of the common and cystic ducts (7, 10, 12) and thus admit of easy explanation; in other cases, it depends upon conditions not susceptible of demonstration, or remedy; in either case it seems to be often the predisposing cause of this form of hemorrhage. Cheyne, who reports the first published case which we have met, introduces it as an example of the fatal effects of infantile jaundice, depending upon what he terms " an original and incurable malconformation of the liver."

The effects of bile upon the blood and the condition of the blood in the hemorrhagic diathesis are facts not well established, yet pathological chemistry in a certain degree sustains the observation that the former is in some measure allied to the latter. Families in whom the hemorrhagic diathesis exists are well known to be very subject to jaundice. while persons suffering from severe jaundice are liable to hemorrhages. As far as chemical investigations of the blood in these two conditions of system have been carried, they show a diminution of the normal amount of fibrin, and an excess of the salts. This state of the blood predisposes to hemorrhage, and affords as satisfactory an explanation, as the present state of pathological science will admit, of the tendency to hemorrhage in these two conditions of system.

Changes in the Cord and its Vessels subsequently to Birth.—The process of desiccation, when healthily conducted, is purely physiological. It commences immediately after the severance of the cord, and is ordinarily completed on the fifth or sixth day. Billard, who describes these changes more minutely than any other writer, concludes "that the separation of the cord is the result of the constriction which the indurated gelatine exercises upon the umbilical vessels at the umbilicus, and also of the continual pulling from this narrowed point of the cord, so dried and fragile." A slight suppuration generally follows the separation of the cord, which terminates in firm cicatrization about the tenth day.

The change which the vessels of the cord undergo are still more important in the consideration of the hemorrhage which may take place from the navel. The following facts relating to the obliteration of the umbilical arteries, are the results of the investigations of M. Lorain, as reported by M. Roger.* They are the most recent investigations of this subject, and are highly interesting.

"There are two modes of obliteration: in the first, the obliteration is provisional; it suffices for the present necessities of the new-born child, and guards against early accidents; it consists in a clot which forms a few hours after birth. This coagulum is formed in children who have not lived more than four or five hours; it commences sometimes in the arteries of the cord, and sometimes at the junction of these vessels with those of the abdomen; it is black, of mediocre consistence, adhering but slightly to the walls of the artery, and is at first very short; subsequently it is elongated by the successive deposition of new molecules, until, at the end of the second day, it occupies two thirds or half the length of the artery, commencing at the umbilicus. It is then firmer, denser, and more adherent to the walls of the vessels. During the succeeding days this coagulum acquires greater consistence, and loses at the same time its black color, and assumes a fibrinous aspect; it becomes more and more regularly cylindrical. In proportion as the clot contracts, the artery narrows. This may be called the provisional mode of obliteration."

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* *Virginia Medical and Surgical Journal,* Oct. 1853.

"The other consists in the complete occlusion of the artery at its umbilical extremity, an occlusion which occurs in the following manner: The extremity of the artery is retracted from the navel, contracts, and presents a conical extremity; this hardly takes place before the twenty-fifth or thirtieth day; at this date the calibre of the artery is very small, and is occupied by a fibrinous clot, white, dense, regularly cylindrical, and closely adherent to the arterial coats. This is the true obliteration."

If we apply the facts already noticed in regard to the effects of bile upon the blood, and the condition of the fluids in a system tainted with a hemorrhagic or syphilitic dyscrasia to the physiological changes in the cord, as established by the investigations of Lorain, we may be able to explain why hemorrhage of an intractable character should occur at the umbilicus in purpura, and the severe forms of infantile jaundice. The child for the first two or three days having the appearance of health, the normal changes in the cord are in progress, the vessels retract and contract, and the plug which fills their cavity effectually prevents all hemorrhage. If the child is already suffering from a dyscrasia, as syphilis or hemorrhagia, this process is but imperfectly conducted. The direct effect of the bile upon the blood by the occurrence of jaundice at this period, would be to interrupt these changes. If persistent, and especially if purpura complicated the jaundice, it would be destructive of the work partially completed.

Separation of the Cord.—Bouchut* remarks: "Up to the present time, hemorrhage has always occurred after the separation of the cord." This assertion is not based on facts. Hemorrhage of the most intractable form may occur about the insertion of the cord before its detachment, both from a traumatic and idiopathic cause. But generally the cord has separated, and the umbilicus undergone complete or partial cicatrization, before hemorrhage has taken place. There seems to be nothing in the period of desiccation, symptomatic of hemorrhage. The cord generally separated on the 5th or 6th days, and this, according to Churchill's statistics, is the ordinary period in an aggregate of 200 cases. There is one condition connected with the process of cicatrization of the umbilicus which is worthy of attention, and that is, the occurrence of a granulating or fungoid surface. This fungus is often persistent, and liable to severe hemorrhage, and therefore demands early attention.

Mr. Ward (*Med. Times*) believes this fungus is due to an excess of vitality in the *vasa vasorum*, which, by preventing cicatrization, is liable on slight injury or ulceration to expose the cul-de-sac of the vessel beneath, and thus give rise to hemorrhage.

Date of Hemorrhage after Birth.—The period within which umbilical hemorrhage occurs (within the first eighteen days) and the open state of the vessels during this time, is evidence that, though their condition is not abnormal, still to their patulous state is due this particular form of hemorrhage. And of more importance is the fact, that hemorrhage generally occurs during the second week,—a period when the closure of these vessels and the cicatrization of the umbilicus is in progress.

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* *Practical Treatise on the Diseases of Children and Infants at the Breast, &c.* By M. Bouchut, translated by P. H. Bird, Esq. London, 1855.

Post-Mortem Appearances.—It does not appear from the investigations of Lorain that a patulous state of the umbilical vessel for two or three weeks, at least, after birth is a pathological condition. These views are confirmed by others. Radford* says of the umbilical vein: "From my examination of infants after death, I conclude that this vessel is not materially changed immediately after birth." Mr. Ray† also states that in the children which he has examined under the age of one month, or six weeks, he has been able to trace a canal in these vessels. Umbilical hemorrhage cannot then be considered as arising simply from a patulous state of these vessels, and the frequency with which this condition seems to have been found in the post-mortem examinations here recorded, has no particular significancy. Nor has there been any thing revealed by dissection, if we except the obliteration of the common duct, which has a bearing upon the etiology of this affection, and we need not further allude to them.

In regard to the etiology of this accident, we conclude,—

That sex has an important but unexplained influence, two thirds being males.

That the most common cause is, a vitiated state of the blood due to jaundice, or a transmitted hemorrhagic or syphilitic dyscrasia.

That a patulous state of the umbilical vessels is not, in these cases, a pathological condition.

That there are no reliable precursory symptoms of an attack of umbilical hemorrhage.

Prognosis.—The prognosis in umbilical hemorrhage depends upon its cause. When the cord is partially torn from its connections, the bleeding has been so free that the child has perished before proper means could be instituted for its arrest. As these cases, therefore, depend much for their successful issue upon the promptness with which means are employed to arrest the hemorrhage, their fatality is decided principally by this circumstance. Two of the three cases (77, 78,) here reported, proved fatal.

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* *Edin. Med. and Surg. Journal.* Vol. 38.

† *Med. Gaz.* Vol. 43.

Hemorrhage from the umbilicus, as it more often occurs, accompanied with symptoms of derangement of the liver, or a cachectic state of the system, is a disease of great fatality.

Radford says: "The result of umbilical bleeding in my practice has been invariably fatal, with the exception of the case (3) just related; and, from an extensive inquiry made amongst my professional friends, I have ascertained this to be the usual termination."

The period at which death takes place varies with circumstances; where the cord is violently ruptured, (case 77,) death may follow as quickly as in the most fatal form of traumatic hemorrhage, or it may be delayed to the 22d day, (case 67,) or even for weeks, (case 14.) Where life is so greatly prolonged, however, the hemorrhage from the umbilicus has rarely persisted, and the fatal termination has been due to the complication of purpura, (cases 14, 16, 65,) or some other disease, (case 15.) But the majority of cases prove fatal within forty-eight hours.

TREATMENT.—The great variety of measures resorted to for the suppression of umbilical hemorrhage is good evidence of the difficulty attending its successful treatment. The general failure of remedies, however, is due, not so much to any difficulty in their successful employment or application, as the condition of system existing which predisposes to the attack and which would render abortive any means adopted. The internal remedies therefore should constitute an important part of the treatment. These should be mild cathartics adapted to relieve the liver and portal circulation, and remedies addressed to the existing state of system. The former should not be omitted in any case, as costiveness and clay-colored stools is one of the earliest symptoms of that derangement of the liver, preceding jaundice and fatal hemorrhage; the latter are appropriate in purpura, the hemorrhagic tendency, &c. Of cathartics, calomel naturally suggests itself as best adapted to meet the indications; in addition taraxicum, sulphate of soda, &c., have been recommended;

of anti-hemorrhagic remedies, sulph. acid, muriated tincture of iron, gallic acid, &c., will be useful with stimulants and tonics to sustain; anodynes to quiet the system.

Compression is made with the finger, with a graduated compress, or with compressed sponge. Although the results of this method of treatment are not very flattering, yet, as it is easily applied and almost invariably arrests the bleeding temporarily, when combined with an astringent application, it is a valuable means. There seems to be little choice in the method employed, as pressure with the finger, a compress, or the sponge. Complete success may attend their first application, as in case (3), where a slight ulceration has unsealed a vessel; but generally they cannot be relied upon for a permanent arrest of the bleeding, unless used with styptics. Much of this failure is due to the yielding walls of the abdomen, which afford but slight resistance, and in spite of the firmest judicious bandaging, are constantly in motion from the crying of the child. Pressure by means of a lady's thimble is an ingenious method, and proved successful (24); scrapings of sole leather with compression (58) was also successful.

The *styptics* used are acetate of lead, sulphate of zinc, tannin, lead, alum, matico, solution of gun-cotton, turpentine, muriated tincture of iron, creosote, powder of nutgalls, etc., etc. These remedies have been employed alone, and with compression. They are beneficial when there is a granulating surface.

The *caustics* are the potential and actual. The nitrate of silver has been very often employed, but with very questionable advantage. When the eschar which it forms falls, the opening is made still larger, and the bleeding is still more free. The only way to use it even safely is in connection with compression or styptics (57.) The actual cautery has been used sufficiently to test its value, which is decidedly negative. In no case was it successfully used, while once (66) it seems to have greatly increased the hemorrhage.

The *ligature* yields by far the most satisfactory results.

In nearly all cases it has arrested the hemorrhage, although the patient may have subsequently died from the persistence of the constitutional disease. It is, indeed, the measure which we should rationally suppose would be most apt to succeed, as from the nature of the hemorrhage it is necessary to secure all the umbilical vessels firmly and permanently. Where there is a fungus growth it is best treated by drawing it out, and applying a ligature directly at its base (51), or by the use of styptics and compression.

Other means have been used, as plaster of Paris (37,65,69), injections of the umbilical vein with perchloride of iron (31), and the immediate ligature of the bleeding vessel. These measures are of very doubtful propriety, for, if positive injury is not done, valuable time is certainly lost. The plaster of Paris is a most mechanical invention, and illy adapted to secure the permanent closure of the umbilical vessels. An injection of the umbilical vein with the perchloride of iron was performed by Dr. Otis, of Virginia (31), and seems to have temporarily arrested the hemorrhage. The ligature of the bleeding vessel, as recommended by Radford, was recently attempted by Mr. Willing (37), but unsuccessfully. Considering the condition of the vessels, and the frequently ulcerated state of the umbilicus, we must regard this as an ill-advised operation, and liable to do injury by the exploration necessary to find the vessel. In regard to treatment we conclude :—

That mild but active cathartics, and anti-hemorrhagic remedies, are of the first importance.

That compression and styptics are useful for the temporary arrest of umbilical hemorrhage, but rarely effect a permanent cessation.

That cauterization is injurious except in connection with compression.

That ligature of the umbilicus, *en masse*, with two needles transfixing it at right angles, offers the best chance of permanently arresting the hemorrhage.

NO.	SEX.	HISTORY.	CORD FELL.	DATE OF HÆM.	SYMPTOMS.	TREATMENT.	RESULT.	AFTER HÆM.	AUTOPSY AND REMARKS.	REFERENCE.
1	F.	Child stout & healthy.	6th d.	15th	Third day after birth became jaundiced; this state continued till death.	No mention made of any treatment in the case.	Died.	2 d.	Umbil. vein patulous, but empty; arteries open and contained grumous blood; liver full and firm; ducts pervious.	Dr. Cheyne's *Ess. on the Diseases of Children. Essay 2d*, 1802, p. 8.
2	....	....	7th d.	7th	....	Graduated compress; roller and adhesive strip.	Died.	12 h.	Navel sloughy, ragged, dark-colored; vein uncontracted.	Mr. Radford, *Ed. Med. & Sur. Jour.*, vol. 38.
3	...	....	8th d.	8th	Bled on removing dressings in which cord separated.	Compress and adhesive strip.	Recov'd	......	....	*Idem.*
4	M.	Second child, feeble, jaundiced, refused to nurse.	sep.	......	....	....	Died.	......	....	Mr. Ray, *London Med. Gaz.*, vol. 34.
5	M.	Same parents; healthy at birth; soon jaundiced.	sep.	......	....	....	Died.	......	....	*Idem.*
6	M.	Same parents; healthy well formed, but icterode on third day.	6th d.	10th	Fine undulat'g stream from left to right side; blood bright red.	Zinc oint. on matico leaves, compress with Ruspini's styptic, turpentine, failed. Tried ligature, but bled from puncture.	Died.	46 h.	Umbilical vein, duct and arteries open, but not where tied; fine probe entered vein, which was empty; fibrine in right artery, seemed to be a dilation of arteries like a sac, preventing retraction.	*Idem.*
7	F.	Healthy, but soon icterode; former child had jaundice.	......	11th	Slight but steady oozing, jaundice intense, purpura over body.	Compress and bandages.	Died.	28 h.	Tissues all tinged with bile; umbil. vein open, other vessels closed; gall bladder distended. Com. duct ending in cul-de-sac.	Dr. Anderson, *Bost. Med & Sur. Journal.*
8	F.	First child, healthy, well formed, labor natural.	3d.	14th	Slight oozing several days; navel healthy; purpura came on.	Compression with finger, lint, spunk, zinc, caustic, single ligature through navel. Passed two needles and ligature.	Died.	6 d.	Bloody dejections from bowels.	Dr. Bowditch, *Am. Jour. Medical Sci.*, Jan. 1836, p. 63.

9	M.	Same parents; large, well formed; bowels costive, urine yellow.	5th	10th	Purpuric spots seen on 10th; navel spongy; oozing of blood.	Compression, tannin. spunk, calomel, oil, salt; actual cautery failed.	Died.	4 d.	Ecchymosis over elbow and occiput; navel natural; vessels closed; liver large, yellow, flaccid; gall bladder small, contracted, empty.	*Idem.*
10	F.	Jaundiced on second day; third child; others healthy.	5th	9th	Urine brown; stools light colored; bleeding after a fit of coughing.	Caustics, compression, acted temporarily.	Died.	10th	Internal organs yellow, except liver, which was soft and full of bile; excretory ducts of liver and gall bladder absent.	Dr. Campbell, *Northern Jour. of Med.*, vol. 1, p. 237.
11	M.	Jaundiced on 3rd day; third child; others healthy.	5th	7th	Hemorrhage continued until 11th day.	....	Died.	11th	....	*Idem.*
12	M.	Same parents; fourth child; jaundiced on 3rd day.	6th	7th	Slight oozing.	Compression and astringents; acted temporarily.	Died.	11th	Internal organs bright yellow, except liver and spleen; navel healthy; gall bladder partially filled with bile; common duct plugged with inspissated bile.	*Idem.*
13	M.	Healthy at birth; icterus followed.	5th	14th	Slight oozing at first.	Nit. arg. pressure with comp. and finger, actual cau., alum, mati.	Died.	48 h.	....	Dr. John Manley, *Lond. Med. Gaz.*, 1850, p. 755.
14	M.	Delicate.	5th	11th	....	Ice, colophony, compression with finger and spunk, nit. argent. failed. Transfixed tubercle with pin and wrapped double thread; bleeding ceased.	Died.	5 w.	Umbilicus healed, vein and left artery obliterated, right admitted probe; orifice in right side of tubercle, from which bleeding took place; purpuric spots in mouth; blood in stomach.	P. Dubois, *Arch. Gén. de Méd.*, Oct. 1849, and *Va. Med. and Surg. Jour.*, Oct. 1853.
15	M.	Healthy.	7th	8th	Ulceration in centre of navel; bleeding free, without impulse.	Pressing with finger, caustic, spunk; colophony failed. Ligature *en masse* with two needles checked it.	Died of enteritis.	12 d.	Umbilical vein and duct venosus collapsed, not obliterated; arteries nearly obliterated.	A. Dubois, *Op. Cit.*
16	M.	Purpuric spots on skin.	......	14th	Hemorrhage slight; serous; but purpura, diarrhœa and stomatitis came on.	Compression, alum, caustic, &c., controlled bleeding after six days.	Died.	24 d.	Umbil. nearly cicatrized; artr. full of pus and coag., open, vein empty, collapsed; ductus arteriosus nearly obliterated.	M. Thore, *Gaz. Med.* 1848, p. 191.

17	M.	Parents healthy, child plump and healthy.	3d	5th	Jaundice, ulceration of navel, hemorrhage from bowels.	Compression with shavings of sole-leather.	Died.		Bleeding not severe, child apparently sunk from hemorrhage from bowels. No P. M. exam.
18	....	Mother had hemorrhagic diathesie.	......	......	Inflammat'n of umbilical vessels, scrotum, bladder, testicle, purpuric spots.	....	Died.	3 d.	....
19	F.	Mother feeble, father healthy, child feeble.	6th	6th	Bled freely, soon after had oozing from the mouth and gums, and vomited blood.	Hemorrhage tempor'ly checked by astringents—as alum, matico and catechu.	Died.	7th	Not made.
20	F.	Not given.	6th	6th	Oozing soon after separation of cord.	Vinegar and water, spunk and compression, actual cautery failed. Passed needle through navel, and applied ligature.	Recov'd	......	Ligature separated on the 4th day; afterwards died of purpura.
21	M.	Mother had syphilis two years before; child had eruption; feeble.	......	8th	Bleeding from left navel and scrotum, at first; three days after from skin.	Not given.	Died.	5th	Very marked case of syphilitic cachexia.
22 } 23		Not given.	sep.	......	Jaundice.	Pressure, astringents, escharotics & twisted suture.	Died.	......	....
24	....	Not given.	8th	14th	Navel white, flaccid; oozing constant.	Styptic and compresses used four days without success. Applied a closed lady's thimble over tubercle, with pressure.	Recov'd	......	Thimble became fill'd with blood and checked flow; cicatrized readily.
25 } 26	....	Not given.	......	......	Not given.	All means failed.	Died.	3d d.	Not given.
27 } 28	....	Twins; delicate.	7th	10th	....	Ligature *en masse.*	Died.	......	Born at 8½ months.

17	Communicated by Dr. S. S. Purple.
18	*Gaz. Med. de Paris.* 1842, p. 105.
19	Dr. F. F. Amyot. *Lond. Med Times,* 1850, p. 449.
20	Dr. Jeunnin, *Jour. des Connats,* 1847.
21	Dr. Evert, *Zrit. fur gesam: Med.*
22 } 23	Dr. E. J. Marsh, *N. J. Med. Rept.* vol. 1., p. 181.
24	Dr. Wm. Gale, *Western Lancet,* Sept., 1853, p. 552.
25 } 26	M. Richard & Villeneuve, *Gazette Med.* 1848, p. 191
27 } 28	M. Danyau,—*L'Union Med., & Va. Med. & Sur. Jour.,* Oct., '53.

29	M.	....	6th	8th	Hemorrhage profuse.	Compress of lint and bandage.	Died.	2d	Arteries open, retracted beyond pressure; clot of blood in right; vein size goose quill; full of liquid blood.	A. DUBOIS, *These de Paris*, and *Va. Med. & Sur. Jor.*, Oct., 1853.
30	F.	Small, well formed; had diarrhœa 12 days, skin blue and cold.	......	13th	Bleeding slight, diarrhœa continuing.	Nit. argent. compression, spunk, alum, actual cautery.	Died.	2nd	No jaundice or ecchymosis; arteries open, full of blood; foramen ovale and duct open; vein closed by a clot.	DR. ROGER, *L'Union Med.* '53, & *Va. Med. & Sur. Jour.*, Oct. 1853.
31	M.	Small, well formed; icterus on 3rd day; parents healthy; labor easy.	7th	4th	Intensely jaundiced; face wrinkl'd and sad, lips pallid, ecchymosis on palate, pulse rapid and small, blood flowed from centre of navel, stools bloody, purpura well mark'd.	Alum, acetate of lead, cold baths, fur, *serre-fine*, matico, sulph. cupri failed; perchloride of iron injected into vein, acted temporarily; gave tr. ferri. mur. in large doses; passed two needles at rt. angles and wound thread.	Died.	2nd	No bleeding occurred after the ligature was applied, a period of 18 hours.	DR. G. A. OTIS, *Va. Med. & Surg. Jour.*, Oct. 1853.
32	M.	Parents and child healthy; weight 9lbs.	7th	30 h.	Blood oozing from navel, did not coagul'te; dischar. from bowels natural.	Sulph. cupri arrested flow 24 hours; on its return styptic applications and tr. ferri. mur. in large doses, with brandy, restored patient's strength, & checked bleeding.	Died.	8th d.	Hemorrhage commenced on 2d day before separation of cord, and proved fatal 2 days after its separation.	DR. S. S. WHIPPLE, *Am. Jour., Med. Sci.*, Oct., 1854, p. 318.
33	M.		6th	8th	No. 32.—Had bled all night; no distinct point discov'ble from which blood came; navel healthy.	No. 33.—Compress of lint, adhesive strip and bandage; perfect quiet.	Died.	27 h.	No. 33.—Umbil. vein full of fluid blood; arteries admit probe; left contained a plug; both retracted beyond pressure.	G. POUT, ESQ, *Med. Chir. Trans.*, vol. 12.
34	....	Same parents; No. 33 healthy.	......	......			Died.	......		
35	....		......	......			Died.	......		

36	F.	Father syphilitic, child feeble.	Sep.	6th	Third day after birth became jaundiced; had also purpura hemorrhagia.	Sulph. cupri, tannin, compression.	Died.	10th d.	Child emaciated and covered with purpura; no autopsic examination allowed.	Communicated by Dr. S. S. Purple.
37	....	Mother healthy; third child; labor easy; refused to nurse; stools white.	7th	13th	On 2d day jaundiced; stools like curdled milk; condit'n much improved with purging; navel healthy where cord separat'd; oozing slight at first; blood did not coagulate.	Matico, tannin, graduated compress, nit. argent., alum, efforts to take up vessels; plaster of Paris, with pressure of finger, &c. failed; ferri. mur. & cobweb, with pressure; no bleeding after; stimulants internally.	Died.	4th d.	Surface yellow and blanched; limbs well formed; liver gorged with blood; umb. vein open its whole length; small coagulum in its orifice; left artery pervious, filled with fluid blood, right closed; duct. art. and vein open; blood very fluid, and did not coagulate.	G. F. B. Willing, Esq., *Med. Times & Gaz.* March 25, 1855.
38	....	Mother healthy; labor easy.	....	....	....	....	Died.	....	....	Dr. A. Hooker, *Am. Jour. Med. Sci.*, Oct., 1852, p. 316.
39	....	Same parents.	....	....	....	....	Died.	....	....	
40	....	Same parents.	....	....	....	....	Died.	....	....	
41	....	Same parents.	....	....	....	....	Died.	....	....	
42 43	....	Same parents.	....	....	Jaundiced.	....	Died.	....	....	*Idem.*
44	....	Twin; feeble.	....	2d	....	....	....	....	....	Dr. W. Read, *Ibid.*, p. 315.
45	....	....	....	....	....	Plugged the navel in both.	Died.	....	The navel seems to have been plugged with plaster of Paris.	Dr. Churchill, *Op. Midwifery*, p. 286.
46	....	....	....	....	....	....	Died.	....		
47 48 49 50	....	Same parents; have two healthy childr'n.	sep.	....	Came out in purple spots before death.	....	Died.	....	Treated by Drs. Key and Babington.	E. Ray, Esq., *Lond. Med. Gaz.*, vol. 43, p. 243.
51	....	....	....	....	Hemor. from a granulating fungus.	This fungus was drawn out and ligatured.	Recov'd	....	Treated by Dr. Blundell and Sir C. Clarke.	Mr. Sterry, *Ibid.*, p. 428.
52	....	Large and vigorous.	....	....	Purpura.	....	Died.	....	First symptom extravasation on the eyelid.	Dr. F. Minot, *Am. Jr. Med. Sci.* Oct. 1852, p. 317.

53	....	Mother delicate; liable to menorrhogia. No. 55 fair, almost white.	......	......	No. 55 had jaundice, apthæ, diarrhœa, convulsions; blood constantly oozed from cord and from umbilicus; scrotum purple.	Bleeding resist'd every varity of styptics.	Died.	8th d.	These parents had three other children, who, though delicate, exhibited no hemorrhagic tendency.	*Med. Chir. Rev.*, vol. 25, from *Jour. der Pract. Heilk.*
54	....		......	......			Died.	12th d.		
55	....		......	......			Died.	14th d.		
56	M.		sep.	......			Died.	9th d.		
57	M.	Child healthy.	9th	6th	Constant oozing.	Pressure, styptics, compress and bandages, failed; arrested by nit. argent. and compression after funis separated.	Recov'd	......	Hemorrhage commenced from the extremity of the funis.	Dr. John Homans, *Bost. Med. & Sur. Jour.*, vol. 40, p. 449.
58	F.	Child apparently healthy; funis left a good surface.	4th	4th	Hemorrhage profuse, bloody passages, sallow skin 5th day.	Compression, styptics, nit. arg., &c., failed; arrested by scrapings of sole leather and firm bandages.	Recov'd	......	Became strong and vigorous; when six years old had jaundice, but recovered rapidly.	*Idem.*
59	M.	Child remark. healthy in appearance.	5th	6th	Hemorrhage very free, on 8th day child became sallow.	Compression fail'd; arrested by nig. argent. and solution of gun cotton.	Recov'd	......	Hemorrhage recurred twice, but arrested by the solution; navel inflamed and swelled like hernia; perfect recovery	*Idem.*
60	F.	Child well formed, apparently healthy.	5th	18th	Hemorrh. not severe; on 21st day skin sallow, with purpuric spots; bleeding from gums.	Compresssion and nit. argent partially arrested the bleeding.	Died.	5th	Ecchymosis formed around the navel after application of caustic.	Dr. Steph. Ball, *Ibid.*
61	M.	Child plump; had colic and green passages.	......	5th	Hemorrhage from a point one-fourth the size of calibre of funis; jaundice gradually came on.	Compression, pressure with finger, ice, creosote, powder of nutgalls, nit. argent., actual cautery, solution of gum shellac in alcohol, turpentine, tr. ferri. mur., all failed.	Died.	......	Pressure with finger arrested hemorrhage 12 hours; child nursed well; purpuric spots noticed on 2d day.	Dr. H. H. Rising, *Ibid.*

63		Parents healthy; funis large and twiged, had diverticula; its circulation distinctly he'rd during pregnancy.	Not sep.	1st	Bleeding from funis, with pulsation, 4 days; on 4th day from navel; eyelid œdematous, finally trunk; spots of stony hardness in limbs.	Compression & various stypt. employed without the slightest advantage.	Died.	5th	Surface yellow; purpuric spots on eyelid, ankles and vulva; effusion of blood into lungs and intestines, no clot in heart or umbil. vessels; arteries traceable into funis; blood pale and thin.	Dr. Putnam, *Ibid.*
64	M.	Parents healthy, child healthy in appearance; purpura on 2d day.	5th	5th	Hemorhage from umbilicus as soon as cord fell; ecchymosed on 2d day.	Not given.	Died.	few hours	Ecchymo. first appeared around navel, then over the whole body.	Dr. Channing, *Ibid.*
65	....	Child doing well, except it had icteric hue.	5th	8th	Slight oozing at first; purpuric spots on elbow on 10th day.	Compress and burnt alum, tannin, plaster of Paris, nit. argent., rice, creosote, matico.	Died.	2d	No post-mortem.	Dr. T. F. Cocke, *N. Y. Annal.*, vol. 2, p. 189.
66	M.	Parents healthy; 2nd child, and healthy; 5th day bowels costive; stools clay-colored; labor easy.	3d	9th	Hemorrhage slight at first; on 10th day free; fine pulsatile jet from left to right; bled from even pricks of a pin.	Acetate and tannate of lead, sulph. zinc, nit. arg., actual cautery; all seemed to increase the flow.	Died.	2d	Surface of body very yellow; actual cautery increased the hemorrhage four-fold; ecchymosis in abundance.	Dr. W. C. Bailey, *Am. Jor. Med. Sci.* April, 1852.
67	F.	Same parents, 5th child and healthy; 8th day stupid; costive, stools clay-colored.	4th	9th	Hemorrhage free; became jaundiced, and on 17th day purpura appeared.	Matico leaf and bandages, alum, &c., mild purgatives, tonics internally; arrested by needles and ligature.	Died.	22d	Ligature separat'd on 19th day, and left a good cicatrix; bleeding began in mouth, and recurred at umbilicus.	*Idem.*
68	....	....	......	......	Percolation around root of cord at place of attach. to abdomen.	Arrested by powder of starch, sugar and acetate of lead constantly added.	Recov'd	......	....	Dr. Condie, *Treat. on Dis. of Children*, 3d Edit., p. 636.
69	....	....	......	......	Same symptoms as last.	Same treatment.	Died.	......	Blood flowed too freely to allow paste to harden.	*Idem.*

70	M.	Fourth child healthy; 3d day icterode; labor easy.	Not.	......	Jaundice over whole body; costive; clay-colored stools.	Hemorrh. ceased spontaneously.	Died.	......	No post-mortem.	*Idem.*
71	M.	Child healthy; vomit'd often.	Not.	3d	Hemorrhage slight.	Nit. argent; ligature around umbilicus.	Died.	......	....	Dr. Keiler. *Monthly Jour.*
72	....	....	Not.	8th	Bled five hours before seen.	Compress and bandage failed; arrested by plaster of Paris.	Recov'd	......	....	Mr. Hill, *Dub. Med. Press.*, vol. 52, p. 556.
73	....	Former child of these parents died of purpura and jaundice on 5th day.	......	......	Hemorrhage preceded by jaundice and purpura.	Not given.	Died.	8th	No autospy..	Dr. G. R. Smith, *Bost. Med. & Sur. Jour.*, vol. 4, p. 441.
74	M.	First child had ichthyosis; this had same disease of skin; became jaundic'd, stools clay-colored.	5th	9th	At first hemorrhage slight, oozing, finally escaped in a fine jet; blood pas. per anum.	Compress and tannin, nit. argent., ligature around a portion, alum, collodion, direct pressure.	Died.	3d	Umbil. vessels pervious; liver dark and friable, gorged with blood; cystic and common ducts closed; gall bladder of serous fluid.	Dr. Gould, *Am. Jr. Med. Sci.* April, 1854.
75	....	Not given.	sep.	3d day after sep.	Hemorrhage free.	All means failed	Died.	1 d.	Probably an imperfect closure of vessels from non-coagulation of blood.	Dr. Hayward, *Ibid.*, 1850, p. 69
76	M.	Parents healthy; labor easy; fourth child, healthy.	Not.	5th	Hemorrhage very profuse; cord ruptured;	....	Died.	20 m.	Cord torn off by nurse, just before its separation.	Dr. Lewis A. Sayre, Comm.
77	....	Mother had syphilis; child born at 7 mon.	5th	5th	Hemorrhage oozing.	Caustic, with tannin & compres., burnt alum, tr. ferri. mur.	Died.	2d	Plaster of Paris used, but not so as to test its virtue.	*Occurr'd in Bellevue Hospital.*
78	M.	Second child; parents and child healthy.	Not.	4th	Hemorrhage free; arterial from left side of cord at its attachm'ts	Nit. argent. tannin and compress arrest'd flow temporarily.	Died.	1 h.	Child exhausted when first seen; crying excited return of hemorrhage.	Author.
79	F.	Parents and child healthy; first child.	Not.	2d	Constant oozing.	Compressed sponge on tannin, with adhesive strip extend'g around body, arrested it temporarily; gave sulph. acid and iron, brandy, &c.	Died.	10 h.	Hemorrhage recurrred during the night, and child died without being observed.	Author.

PART SECOND.

CRITICAL ANALYSIS.

ART. V.—*Clinical Lectures on the Diseases of Women and Children.* By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Midwifery, in the University of New York. 8vo. pp. 563. Samuel S. & W. Wood. New York. 1855.

OUR attention was first attracted to these Lectures by the novelty of the enterprise, in the success of which we had not much confidence; and it is partly from having withheld our encouragement that we are now induced to state our opinion of the results. We were, however, by no means alone in this distrust, and there were probably none who did not regard the undertaking as an experiment that would be required to encounter many difficulties. We think that our author has fairly represented this at page 72. Nevertheless, the work went on; grave and venerable matrons brought their daughters and little ones to the clinic in such increasing numbers that they soon exceeded the Professor's ability to dispose of the cases in the allotted time of two hours; and the lectures became frequented by many practitioners in the city, and by students attached to the other schools. The experiment came out triumphantly, and proved to the world that knowledge and humanity in pursuit of lofty and sacred objects may overcome what would be otherwise offensive to common modesty. The Professor has demonstrated that human suffering in any form may be rendered the subject of chaste and enlightened instruction in a practical manner; and it is a consciousness of this honesty of purpose, and confidence in the uprightness of those who come to learn, which has divested his lecture-room of all repulsiveness to the sensitive female who may desire the benefits offered by skill and benevolence. A principle which he lays down, and is amply followed out in his comments, has, doubtless, been largely tributary to our author's success. In his intercourse with his female patients he says, "let the practitioner feel that he stands in the sanctuary of virtue, and his actions cannot fail to be in accordance with this sentiment:" page 77. And it may be supposed that he was not unmindful of another precept addressed to his audience, that "the poor, like the wealthy of this world, are subject to disease and suffering; and they, too, have their keen sensibilities. To allay these sensibilities, and smooth the pillow of the sufferer, laboring under the double affliction of disease and poverty, is the duty of the Christian; it should, too, constitute the happiness of the physician:" page 87.

We cannot, however, agree with our author in the propriety of the latitude which is sometimes indulged for the practical benefit of the students. But the great popularity of the clinics appears to render our explanation applicable to all the cases where delicacy is most in question. And, that the Professor manages all this with a becoming consideration, is further evident from the rebuke which he so wisely bestows upon the abuses of the speculum and touch, especially the former: pages 6 and 126–128. Nor will we neglect, in this connection, our author's reference to some of the frequent remote predisposing causes of "functional and organic derangements of the uterus; among which he enumerates, in graphic language,

"Abortions, precocious nervous excitement from the perusal of prurient books, the lascivious polka, and the various exciting scenes of city life, as so many influences which are constantly exhibiting their destructive results on the females of the gay metropolis; and add to these, the uninterrupted rounds of excitement consequent upon balls, parties, the opera, etc., the liability to cold, imposed by these amusements, and, more than all, the fact that these disastrous influences—disastrous to health and happiness—are exercised on a *physique*, too often without a single attribute of solidity, and you will at once have explained why it is that females in the higher classes of our large cities decay long before they have attained the meridian of life." Page 7, and again pages 98–100, 293, 294.

But Professor Bedford has done more than achieving the success of his clinics. He has more than taught us their practicability and usefulness. He has opened a new field in the periscope of medicine, where he will have no lack of followers, and has conferred a benefit upon humanity which the enlightened of future generations will not fail to acknowledge.

If we now look at the work before us, we shall find it, although only an abbreviation of his lectures, bearing ample testimony to the author's industry, talents, learning and benevolence. In whatever is practical, he has generally our concurrence, often our admiration; and this is the most immediately useful part of the work. In diagnosis, description of symptoms, pathological and remote predisposing causes, modes of investigation, and treatment, its value is of a high order, and generally unexceptionable. In all these respects, too, our author is ample in the most useful detail, nor avoids a minuteness where it may be suggestive in difficult problems or of habits of critical inquiry. Nor have we any thing but commendation for the style, which is chaste and classical, or for the preservation of its original colloquial manner, unless there may be to the mature physician a redundancy of interrogatories and of a conciliating deportment addressed to the patients. But it will be readily seen how much all this is tributary to the happiness and confidence of those who resort to this clinic for relief, how much it unfolds the diseases, how much it imparts the force of demonstration, and how much the example conducts the pupil into the proper methods of investigation, and awakens his kindness and sympathy. But our author often runs, with an agreeable facility, into the didactic style, especially in expositions of medical principles, or, as in the analysis which he makes of the structure of the uterus and its appendages: pages 135–143.

It will be thus seen that our author does not limit himself to the simple details of practical instruction. Far from it; for he constantly brings into application many of the great principles of the science, by which, indeed, however unconsciously, he is especially guided in his pathological and therapeutical views, and which never fail of actuating all, with rare exceptions, in the treatment of disease. Sound, in the main, in his philosophy, he occasionally departs from it to pay a tribute to the prevailing errors of the day. It is the former, however, as his book will show, which carries off his practice, and therefore, in a practical sense at least, the latter is ignored. But what most surprised us is the frequent introduction of those enlightened views in solidism and vitalism, which have yielded so extensively, in recent times, to the *long-exploded* doctrines in humoralism and physics; and it is this, especially, which has prompted us to look with diligence to the practical value of the work, and to express our humble opinion upon its merits.

It is impossible, however, to present an analysis of this storehouse of knowledge for the student of medicine, for it consists, in itself, of analyses of special cases, and of brief commentaries upon principles in medicine suggested by the circumstances of the individual cases. This is alike true of our author's instruction both upon the diseases of women and children, though much less remarkable for variety and skill in the latter respect than in the more complicated diseases of females. There is, unavoidably, much repetition where the cases present strong points of resemblance; but this is not the less valuable to the inquisitive student, on account of the peculiarities of every case, or even their shades of difference, which may be important to be understood, but often of difficult discernment. Occasionally, there is a useless repetition preserved in the work, which appears to have been the result of inattention; as in the instructions given for the management of infants as soon as born, their food, &c.

Our author's lectures are also peculiarly valuable for the importance which they ascribe to an exact knowledge, and the constant exemplifications, of the seats and sympathetic complications of disease, and in tracing effects to their proper pathological causes. Many very instructive examples occur in diagnosis, and the most ingenious and difficult show our author's complete dependence upon the philosophy of the vital solidist. Thus, for example, at page 45 is an instructive case of obstinate vomiting, occasioned by uterine hydatids.

> "Several medical gentlemen had already prescribed for the patient. When first seen by myself, in company with Dr. Whiting, she was apparently near dissolution. Her prostration was extreme; her countenance almost Hippocratic; and, indeed, her friends had abandoned all hope of recovery. The medical gentlemen who had preceded me in attendance, had ordered cups, leeching, blisters, &c., over the region of the stomach, with various other remedies, but all without the slightest appreciable effect." Our author "arrived at the conclusion that the vomiting was merely a symptom of trouble elsewhere than in the stomach, and that no remedy addressed to that organ would be of the least avail in rescuing the patient from the imminent peril in which she was placed. On applying my hand to the abdomen, I found the uterus enlarged, and occupying the hypogastric region." "My opinion was, that the vomiting was sympathetic, and produced by irritation of the uterus. I therefore suggested the propriety of endeavoring to induce contraction of this organ, that its contents might be expelled. This view was concurred in by Dr. Whiting. Accordingly, at Dr. Whiting's request, I introduced a female catheter into the uterus. In a short time the organ contracted, and a mass of hydatids was thrown off. Almost immediately, as if by enchantment, the vomiting ceased. The patient had a slow recovery, and is now in the enjoyment of robust health."

Our author then remarks: "Let this case impress on you the importance of tracing effects to causes; and remember this cardinal truth, that the practitioner who prescribes for mere symptoms, (and our author has several cases illustrative of this,) can never hope to treat disease successfully." And may we not add that success can never be attained but through an enlightened knowledge in physiology as the groundwork of all the rest? But this case, like a parallel one from congestive dysmenorrhœa at page 112, is only conspicuous in that respect. A multitude of others, more obscurely but not less essentially dependent upon the laws of sympathy, are constantly presenting themselves in our author's work, and where, without the same guiding philosophy, all practice is a poor substitute for unaided nature. It is all for the symptoms, or for some peccant humor, or aspires at converting morbid blood and diseased solids into their normal state by chemical processes, when these very philosophers, profound as they may be in other departments of science, will readily concede that the original normal state was the work of an elaborate system of organization, and acting upon materials totally different from the chemical agents by which they are supposed to be replaced.

Analogous to the foregoing, but presenting other aspects of our author's philosophical habits, are the enlightened comments upon a case of ulceration of the neck of the uterus, at pages 124–126, where the physiological influences of the nervous system in developing sympathetic diseases are well expounded; and here our author treads heavily upon the usurpations of the chemist, and laughs at the humoralist, by tracing the formation of urinary lithates to the laws of vital-solidism. Thus our author:—

"There is one feature in this case with which is associated a very important and interesting fact; the character of the urinary deposit. Patients will frequently consult you on this subject, and if you regard the urinary deposit as a disease *per se*, if you connect it with some idiopathic affection of the kidneys, you will often err in judgment, and fail to benefit your patient. Lithates are not uncommon in the urine of females, and if your observation be directed to this point, you will discover that they are often the indirect result of disease of the womb. This character of deposit is one of the evidences of impaired digestion. In diseases of the uterus, either functional or organic, this impairment, I have already said, is apt to follow through the operation of the *trisplanchnic* system of nerves. You see, therefore, how manifestly important it is, before having recourse to therapeutic measures, to ascertain where the cause and effect exist." And so of a similar, maltreated case, at pages 383–386.

At another time, in recurring to the subject of ganglionic influences in the production of disease, we have from our author a practical suggestion which is predicated of the true philosophy of the peristaltic movements of the intestines. After speaking of many other sympathetic results of the gravid uterus, our author says:—

> "I believe that to a certain degree the constipation so common in pregnancy may be explained in the same way, the regular action of the intestinal canal being modified in consequence of a want of healthy *nervous power* from the ganglionic nerves. This, at all events, in my opinion, is the true explanation of torpor of the bowels in the earlier months of gestation; and I therefore am disposed, as a general rule, to regard constipation as an accompaniment of pregnancy for the same reason that I do nasuea, vomiting, &c., irritation of the ganglionic system of nerves. But, at a later period of pregnancy, there is an additional cause brought into operation—pressure of the uterus against the intestine, &c.:" page 146.

On the other hand, another peculiarly modified irritation of the ganglionic nerves, induced by pregnancy, will lead to diarrhœa, the nervous power then operating, as in the case of vomiting, as a stimulus to the organic properties of the intestinal muscular tissue: page 147. The treatment must depend upon the special causes, remote and proximate.

Or consider the comprehensive philosophy involved in a few words of our author's excellent comment upon a case of "sub-mucous fibrous tumor of the uterus in a married woman, &c.," at pages 217–224.

> "The emaciation here is the result of local disease—the nerves of organic life, whose healthy influence is so essential to the maintenance of the nutritive functions, have suffered impairment from the diseased condition of the uterus, and hence they have been unable to transmit to the digestive organs their proper supply of nervous power. How often have you seen this principle exemplified in the Clinique, both in functional and structural disease of the uterus! It is a principle which those of you who intend to make a specialty of the maladies peculiar to women must have constantly before you. Often will it prove a faithful guide, and enable you to reach the truth which, without it, would be unattainable. It is not improbable that the patient herself, as well as her friends, imagine that the emaciation is *the* absorbing feature in the case—and with this view, their therapeutics would consist in the administration of tonics to generate an appetite, etc. But to you, this decay of structure presents a very different aspect—it is the effect of a disease, which alone is to occupy your attention; and if you can succeed in arresting it, then the nutritive functions will be the recipients of healthy nervous influence—digestion will be improved, and the patient will gain flesh and strength. This, at least, is the fair reasoning in the case—reasoning, which all experience proves to be correct:" page 220.

It is not remarkable, however, that our author, in his devotion to his favorite department, and in the midst of so great a variety of complications of disease, should sometimes regard the uterine derangement as the primary sympathetic cause, when it has been only one of the remote consequences of other lesions of function. We think that such misapprehension occurs in the interesting case of "threatened paralysis," at pages 208–210, and that of "suppressed menstruation and periodical hemorrhoidal bleeding," at page 337, the latter of which we should refer to hepatic congestion. These instances, however, are rare; and for these our author may plead the example of his distinguished teacher, the Baron Louis, who refers all the structural lesions that ever happen in typhoid fever to a primary affection of Payer's glands, yellow fever to hepatic disease, and the intermittent to troubles of the spleen.

We shall continue to follow our author in his medical principles, because we find them most usefully associated, as a natural result, with his expositions of about all the cases that make up his valuable contribution to the healing art. We may not neglect saying, therefore, that the humoral pathology, as far as our author's facts and philosophy are concerned, gets many blows from examples of lactation and mammary abscess; and chemistry and filtration have a very sorry chance in their presence, especially when our author speaks of the effects of mental emotions in altering the qualities of the milk, and which is illustrated by a case of infantile purging and convulsions, at page 423–426; and again when he descants upon the influences of the uterus, habit, &c., in variously affecting the production of milk. The simple element of the whole may be constantly seen in the only philosophy which can interpret the various and sudden changes brought about in the product of a suppurating surface by mental emotions, gastric and intestinal derangements, cathartics, exercise in the open air, &c.; and this is extensively applicable to all other secretions.

Many prevailing errors in practice are corrected, which are often accompanied by suggestions that point the attention of the student to profound problems in physiology, which, if he follow out, will induct him far into the labyrinth of a sound philosophy of life and disease. These instances sometimes begin in slight matters. Thus, at page 199, our author, when objecting to the usage of applying two ligatures to the umbilical cord, is led to assign the reason, which brings into view the whole proper philosophy of decarbonization of the blood, both in the lungs and the placenta, and how the phenomenon as taking place in the latter is tributary to a just interpretation of the former.

We would also commend to the attention of the student two difficult and well-authenticated cases in diagnosis of a very different character from such as we have already quoted; one of concealed pregnancy, the other of mistaken pregnancy. They occur at pages 48 to 53, and abound with important instruction even to the mature of the Profession. The narrative has also the advantage of being affectingly true to nature, and the cases are presented, without any apparent design of our author, in powerful contrast with each other.

At pages 248–251 is a very clever, and if we may say so, admirable diagnosis of a case of "imperforate os tincæ and retention of the menses," which exemplifies our author's skill and the practical richness of his instruction. Other, and similar cases occur at pages 297–299, and pages 318–321, the latter of which presents the interest of having occurred in a woman who had borne two children; and a successful issue of an operation in this case may be seen at page 376. These dexterous achievements in diagnosis were made and verified in the presence of the class; and perhaps it may be conceded that the great practical benefit arising from a thorough investigation of obscure forms of dangerous maladies justifies the full extent of our author's critical instruction. There seems not to have been any thing lost to modesty, while it cannot be doubted that much was gained to knowledge and humanity. There is much of this where obscurity prevails, and where a great compensation obtains, though it may be mostly important in the aspect of diagnosis. This, for example, is true of the interesting case of uterine flatus, which follows immediately the last of the foregoing, pages 321–325; and at page 377 may be seen the successful result of the instrumental treatment. To this class of cases, only far more practically important, belongs a very complicated one of "*complete occlusion of the meatus urinarius, with adhesion of the walls of the upper fourth of the vagina, together with vesico-vaginal fistula, produced by instrumental delivery,*" requiring three distinct operations at as many distinct periods, and where our author exhibits his happy facility of rendering a special case the groundwork of important and diversified information: pages 346–355.

So far, and in all the analogous cases of difficult diagnosis and treatment, we think that our author has established a claim to the thanks of the Profession for the responsibilities he undertook in its behalf, and where, too, he had been discouraged from the enterprise. Even in such instances as that of the abscess, at page 340, and of chancre, at page 419, and of infiltration, at page 406, much practical benefit may result from the demonstrations made; but here it is more a question as to the propriety of its full extent. If all minds were as pure as our author's, we might not raise an objection. In any event, it must be conceded that our author has a remarkable facility in obtaining the onfidence of female patients.

We are not disposed, however, to rest here, but would indicate still further the excellent variety in the work before us. Of a still different character from the foregoing is an inquiry into the various internal causes of chorea (page 116); and at pages 104–105 is a profitable example in diagnosis of internal causes of cough, where the malady was "sympathetic from intestinal worms," with an explanation of the philosophy; while this may be contrasted with another case of troublesome cough depending upon "pressure of the gravid uterus against the diaphragm," when the patient was in a recumbent posture (page 180); with appropriate comments in all the cases upon the corresponding varieties in treatment. And here may be usefully considered and compared with the foregoing the enlightened commentary upon a case of *catalepsy* resulting from an "engorgement of the uterus," which had grown out of a complex series of remote influences: pages 331–337. This patient returns cured at page 378. In connection also with the foregoing cases, that of hysteria, at pages 368–374, and the variety of comment to which it leads, may very usefully engage the attention of the student, not only for its practical but its theoretical interest. And of an analogous nature are the enlightened disquisitions upon "globus hystericus," &c., at pages 236–241; and again upon the remote internal and proximate causes of infantile convulsions, and other diseases of infancy, and how the treatment should be determined accordingly; as at pages 36–37, 195–198, 212–217, 287–290, 450–456. "In my judgment," says our author, "the advances of *Physiology*, though recognized in almost every department of the Profession, are in no particular more strikingly illustrated, than in the light they have shed on the nervous diseases of infancy:" page 450.

It will be seen that we have hitherto referred to only such cases as were introduced to the class in attendance upon our author's lectures, when the prescriptions were made, and the accuracy of our author's diagnosis confirmed by highly interesting, and sometimes startling demonstrations. We are therefore prepared to render to our author full credit for the five or six cases embraced in his work, which occurred in his private practice. Of this number it is but just to our author that we should quote an example, and we are sure that the reader will be gratified with the following pathetic story of a clergyman's daughter, which will serve, also, to exhibit the importance of accuracy in diagnosis.

Thus, our author:—

"I was requested to visit a lady who was residing in the State of New Jersey, about thirty miles distant from New York. I immediately repaired to her residence, and on my arrival was received by her father, a venerable and accomplished gentleman. He seemed broken in spirit, and it was evident that grief had taken a deep hold of his frame. On being introduced to his daughter's room, my sympathies were at once awakened on beholding the wreck of beauty which was presented to my view. She was evidently laboring under phthisis and it was manifest from her wasted frame that death had claimed his victim. My presence did not seem to occasion the slightest disturbance, and with the smile of an angel playing on her countenance, she greeted me with these words: 'Well, doctor, I am glad to see you on my beloved father's account, for he will not believe that I cannot yet be restored to health. Life, however, has lost all its charms for me, and I long for the repose of the grave.' These words were spoken with extraordinary gentleness, but yet with an emphasis that at once gave me an insight into the character of this lovely woman.

"Her father was a clergyman of high standing in the English Church, and had a pastoral charge in England, in which he continued until circumstances rendered it necessary for him to leave that country, and seek a residence in America. At a very early age, this young lady had lost her mother, and had been almost entirely educated by her father, whose talents and attainments admirably fitted him for this duty. When she had attained her eighteenth year, an attachment was formed between her and a young barrister of great promise and respectability. This attachment resulted in a matrimonial engagement. Soon after the engagement, she began unaccountably to decline in health. There was considerable irregularity in her menstrual periods, with more or less constant nausea, loss of appetite, inability to sleep, feverishness, and an uncontrollable dislike to society. In addition to these symptoms, there was a marked change in her personal appearance; her abdomen became enlarged, with increased size of the breasts, etc. These changes attracted the attention of some of her female acquaintance, and the rumor soon spread that they were the result of pregnancy.

"The barrister to whom she was affianced heard of these reports, and, instead of being the first to stand forth as her protector, and draw near to his heart this lovely and injured girl, thus assuaging the intensity of grief with which she was overwhelmed, addressed a letter to her father, requesting to be released from his engagement. This was *of course* assented to without hesitation. The young lady, conscious of her own innocence, knowing better than any one else her own immaculate character, and relying on Heaven to guide her in this her hour of trial, requested that a physician should be sent for, in order that the nature of her case might be fully ascertained. A medical man accordingly visited her, and, after an investigation of her symptoms, informed her father that she was undoubtedly pregnant, and that means should be instantly taken to keep the unpleasant matter secret. The father, indignant at this cruel imputation against the honor of his child, spotless as he knew her to be, spurned the proposition, and immediately requested an additional consultation. This resulted in a confirmation of the opinion previously expressed, and the feelings of that parent can be better appreciated than portrayed.

"Without delay, that good man determined to resign his living, gather up his little property, and proceed with his daughter to America. On her passage to this country, she became extremely ill, and there being a physician on board the vessel, his advice was requested. After seeing the patient (she was affected at the time with excessive vomiting from sea-sickness,) he told the father there was danger of premature delivery. Such, therefore, was the general appearance of this lady, that a medical man, merely taking appearances as his guide, at once concluded she was pregnant. This was about the substance of what I learned respecting the previous history of this interesting and extraordinary woman, and my opinion was then requested as to the character of her malady. My feelings were very naturally much enlisted in her behalf, and I proceeded with great caution in the investigation of her case. Without entering at this time into details as to the manner in which I conducted the examination, suffice it to say, that, after a faithful and critical survey, most minutely made in reference to every point, I stated in broad and unequivocal language, that she *was not pregnant.* The only reply this gentle creature made on hearing my opinion, was, 'Doctor, you are right.' These words were full of meaning, and their import I could not but appreciate. They were uttered neither with an air of triumph, nor with a feeling of unkindness towards those who had so cruelly abused her. The father was soon made acquainted with the result of my examination, but he indicated not the slightest emotion. His bearing was quiet and dignified. It was evident that he had never faltered for one moment in the belief of his daughter's virtue, and required no assurance from me or any other living being, that his child had been shamefully wronged. He asked me with great solicitude whether something could not be done to restore her to health, and I thought the old man's heart would break when I told him that his daughter was in the last stage of consumption. I left him with the pledge that he would inform me of her dissolution, and afford an opportunity, by a *post-mortem* examination, of testing the truth of my opinion.

"About four weeks from this time, I received a note announcing the death of his daughter, and requesting that I would immediately hasten to the house, for the purpose of making the examination. Dr. Ostrum, now practicing at Goshen, at my request accompanied me, and assisted in the autopsy. It may surprise you, gentlemen, but yet it is an interesting fact to communicate, for it exhibits the true character of the man, that during the *post-mortem* examination the father stood by, and witnessed every stage of the operation; his form was erect, his face pale and thoughtful, and one tear would have broken the agony of his grief. As he stood before me, he was not unlike the stricken oak in the forest, which, though blasted and stripped of its branches, was yet upright and majestic. As I removed the tumor from the womb, he seized it convulsively, and exclaimed: 'This is my trophy, and I will return with it to England, and it shall confound the traducers of my child.'

"Here, you perceive, both character and life were sacrificed by error of judgment on the part of those whose counsel had been invoked. Without a due appreciation of their responsibility—heedless, as it were, of the distressing consequences which would inevitably result from an erroneous judgment of a case, in which character was so deeply involved, the medical gentlemen, unjust to themselves, and to the Profession of which they should have been in part the conservators, rashly pronounced an opinion which consigned to an early grave a pure and lovely being, and crushed the heart of a devoted and confiding parent.

"It was the misfortune of this young lady to labor under an affection of the womb, which simulated, in several important particulars, the condition of pregnancy; and which the world, in its ignorance, might have supposed did in fact exist; yet there was no excuse for the physician, guided as he should have been by the lights of science, and governed by the principles of a sound morality. When I stated unequivocally to the lady that she *was not pregnant*, I gave an opinion which I knew would stand; my examination was conducted in a way which enabled me accurately to comprehend that the whole train of symptoms, indicating gestation, was occasioned by an enlargement of the womb, altogether unconnected with pregnancy, and produced by the presence of a large resisting tumor occupying the entire cavity of this organ. This opinion, I admit, was not arrived at without some degree of caution—caution fully justified by the peculiar nature of the issue involved in the decision.

"This, gentleman, is a case well calculated to make you pause, and contemplate with serious earnestness the position in which, by virtue of your diplomas, you will soon be placed. These diplomas will confer on you the right to practice your profession—they will intrust to your keeping the lives and happiness of your fellow-beings—you will frequently be the sole arbiters, on whose decision must rest the honor of your patients, and on whose judgment must stand all that is sacred in life." Pages 50–53.

In the midst of all the display which we have now seen of our author's philosophy of life and disease, it may be unexpected to find him now and then paying a respectful consideration to popular and superficial doctrines; and to their advocates it may be consoling to know, for example, that he speaks of "*neutralizing*" the syphilitic poison by mercury: page 339. But our author does not enlighten us as to the *modus operandi* of a *non-stimulating diet* in curing the same disease, as attested by many of the best writers; nor does he intimate that the *iodide of potassium*, which he greatly commends in these cases (page 340), also *neutralizes* the poison. That would not be in conformity with the sensible results that are peculiar to the union of acids and alkalies, and so the reader is left to make the best he may of the *modus operandi* of *iodine*. Do arsenic, cinchona, cobwebs, opium, emetics, phlebotomy, and mental emotions, some from the animal, some from the mineral, and some from the vegetable kingdom, and others from the spiritual domain, or from the contaminated mass itself, alike "neutralize the poison," when they overthrow intermittent fever, or unite chemically with the diseased solids, and thus convert both them and the blood to their normal state? Is there the slightest consistency in this with the exact laws of chemical affinities and the resulting coincidences? Our able and candid author will concede that there is not, and will expunge this trifling with facts as well as with philosophy from his next edition—albeit though it be stereotyped. We will pay the expense.

This suggestion, indeed, is important to render our author consistent with himself, not only in a general sense, but in the very matter now in question; for at other times he unavoidably allows the true philosophy of the operation of *mercury* to escape from his lips. Thus, in a case of suppression of the menses, he says that "*ptyalism* must be effected by mercury, and though it is not desirable that extensive *mercurial action* should take place, it is absolutely essential that the *system should be under its influence* for at least three or four months:" page 403.

Our author also imagines that measles and scarlet fever are owing to contamination of the blood by some peculiar virus, (not the insect pathology,) and that "nature as a general principle throws it upon the surface. But when, from some contravention, she is unable to dispose of it, the result of this inability is soon disclosed by the nervous disturbance which ensues, and which frequently terminates in convulsions:" page 437.

Now, however this doctrine may abound in recent authors, we deny that it is supported by the shadow of a fact, and believe that, like what we have already shown of analogous fictions, it is contradicted by all that is known in physiology and pathology. If this be not so, then it devolves upon the advocates of the hypothesis to show that it is not exclusively the offspring of imagination. And as to our author, does the doctrine, in the case before us, harmonize with what we have seen of his rational philosophy of convulsions in other instances, and in which the blood is not at all suspected? Does our author's treatment of scarlatina, under any circumstances, correspond with his pathology? Certainly not. It belongs purely to vital solidism, and, as our author well remarks upon this matter, "the treatment, after all, is the material part of the whole subject." See pages 542–550.

Under the same category must be included the speculations about *kiestine* (a word from the laboratory), which occur at page 474. It may be more encouraging that our author touches the shoals of the humoral pathology at the very outset of his work. But he seems conscious of this awkward position, and is evidently unwilling that his readers should accept the fallacy. Thus, of *chlorosis*, he says that it is often constituted by "*an impoverished condition of the blood.*" Nevertheless, he regards this "impoverished condition" only as one of the ultimate effects of an extensive functional lesion, generally at first of the digestive organs, which leads frequently to disturbances of the uterine functions, or to lesions of structure in various parts. Let us quote the Professor on a subject so important to a right treatment of disease, and through which he dismisses the humoral pathology:—

> "Constipation," says he, "is so frequent an accompaniment of chlorosis, that we are inclined to think, with Marshall Hall, that it is one of the *most fruitful sources* of this disease. It is insidious in its results, and often lays the foundation of general derangement of the health. In these and in other cases the impoverishment of the blood may arise from the morbid influence exercised by these disturbances on the ganglionic system of nerves, the healthy and unaffected condition of which is so essential to the proper-performance of the assimilative functions." Page 24.

Indeed, the whole of our author's reasoning and practical injunctions are entirely on the side of solidism; and it will be seen, from the following case of "amenorrhœa from an atonic condition of the system" (which illustrates still further our author's meaning as to an "impoverished condition of the blood"), that there is, after all, no encouragement in his work for the physical philosophers of life. Thus the Professor, upon "impoverished blood," as it was with Andral, the restorer of the doctrine:—

> "The *vital forces* are too low, the *vis naturalis* of the economy is deficient, and, as a necessary *consequence of this state of things*, there is functional inactivity of the uterus. Without a just discrimination much injury might befall the girl by injudicious medication." Page 484.

Finally, our author quotes Dr. Bennett as saying that *chlorosis* "arises exclusively from disease of the blood," and our author shall now become the critic:—

> "With this doctrine to guide us," he says, "our treatment of chlorosis would not only be useless, but *absolutely destructive* in cases in which this affection is traceable purely to organic disease of the womb, or to aberration in the functions of this organ." Page 25.

As our inquiry upon this topic is extensively applicable to the humoral pathology, and as we desire our author's co-operation, as well as what may be gleaned of a like nature from other quarters, we may be permitted to quote our author, in connection with Bernard, in the matter of the treatment of chlorosis, where we shall find them both upon the ground which we have always occupied. Thus our author :—

> "Bernard is of opinion that the curative effects of iron in chlorosis are not due to the absorption of this agent into the blood; he has not been able to detect, after injecting into the stomach iron filings, the lactate of iron, &c., more iron than usual in the vena portæ; but he observes that as iron exists in the food, it may perhaps require a certain combination in order that the metal may be absorbed. He however insists upon a very important fact, viz., that the salts of iron exercise a special action on the mucous coat of the stomach, each portion of this surface touched by the metal immediately assuming a more active circulation. It is, therefore, a direct excitant. May not chlorosis, he asks, according to this, be due to an impaired digestion, and may not the iron, by the excitation it produces, re-establish and fortify the digestive functions? Although this question is not completely solved, yet it must be admitted that it possesses much therapeutic interest." Page 28. *There is nothing new in this.*

Our author has given us so much that is sound in philosophy, and of great practical value in pathology and therapeutics, we should have, perhaps, no right to bring his occasional oversights into contrast, were it not for the benefit of rational medicine. Nor did we, in fairness, think it right to neglect the little which our author has conceded to popularity; and with this intention we refer such as are prone to speculation to a lecture upon *uremia* and *albuminuria*, which our author has especially provided for that class of readers, at pages 521–534. This, too, may have been judicious, in view of the odds that prevail against our author's substantial system of medicine. But where there is so much that is profound, erudite and philosophical, we have our doubts whether there is enough of the former to give satisfaction. Our author, moreover, should have been actuated by what he evidently sees, that the day is near at hand when medicine will be completely rescued from the toils of its invaders, and when their aspirations must go into the common wreck of factitious systems. Nor do we intend any discourtesy by this remark, which is prompted alone by our convictions of the momentous importance of the subject to the highest interests of mankind, to reason, and the claims of nature. What we have regarded as spurious cannot long survive the blaze of light which the nervous system is pouring upon physiology, pathology and therapeutics, if just conclusions should not be reached through other important sources that abound in the animal economy.

But most of all do we regret that our author should have given his countenance to a popular doctrine of the day, which reaches far beyond the ranks of the Profession—the spontaneity of living beings, as manifested in his comments upon intestinal worms: pages 61, 62. Admit this as an example of spontaneous origin, and it must be conceded by all that is sound in analogy, that the door is equally open for any other animal, and for man himself. The hypothesis is without a plausible fact, whilst the ova of these parasites, and of such as are found in the organization of the body, even in the fœtus, may require, in the natural external condition of the animals, a magnifying power of several hundred times to render them visible. They may, therefore, be absorbed into the circulation, where their new mode of existence, as well as in the intestinal canal, may so modify the condition of the animals that they shall lose all resemblance to their characteristics in the external world. The animal and vegetable tribes abound with equally remarkable aberrations, that arise from climate, domestication, and cultivation alone. But more than this. From whence comes the elaborate organization of these so-called parasites and their wonderful systems of design? How do they obtain, at their start into being, the seventeen or eighteen elements of which they are composed, and which are indispensable to the beginning of existence? And should not this objection have been urged against the pretended creation of the *Acarus Crossii* out of a simple solution of silex in water? Is there any thing in chemistry that will expound the union of such a number of elements into compounds of the most exact nature, or these compounds, by any thing known in physics, into systems of design, if you had all the elements to begin with? Or take oxygen, hydrogen, nitrogen and carbon alone; the chemist completely fails to fabricate the most simple organic compound out of these or any number of elements. Nor can the pretense be set up that the so-called intestinal parasites grow out of a previously organized part, for they are perfectly independent beings, and have no attachments to the intestine. The doctrine which ascribes *Muguet* "to the production of a parasitic plant within the epithelial cells" (p. 459), is open to precisely the same objections as apply to the spontaneity of animals, and is contradicted by all the physiological, pathological, and therapeutical facts. It is alone worthy of the most imaginative of the microscopical school, setting aside its pernicious tendencies in religion.

We cannot but think, after all, that whoever regards the animalcule, that can be discerned only through a high magnifying power, in all its wonderful complexity of organization, seemingly existing in *nothing*, in all its close analogies in composition and structure to man himself, and ponders upon the same analogies as they are only less complex in worms, and only still less in parasitic plants, and considers the stupendous designs which each part, and all together in unison, fulfill for the growth and well-being of each individual, and how there is no deviation in structure among all the individuals of the species, respectively, must concede the descent of the whole from progenitors that had been brought into being by an Intelligence higher than that which is enabled to explore the labyrinth and trace out the designs, and that thus informed, he must bow with reverential awe under the inspiration of such contemplations.

In parting with our author, we assure him, for ourself, that we hail the advent of such a work, abounding in practical matter of the deepest interest, and illustrated by principles and laws ordained by Nature, and we may further congratulate our author that this novelty in medical instruction has been achieved in America.

The great variety of topics embraced in our author's work is accompanied by a correspondingly copious index, while a general analysis of each lecture makes up a connected table of contents, and this is repeated at the head of the lectures as they follow each other, and each case is introduced by a brief analysis. Of all this variety of subjects it may be safely said, that each one is worthy of the place which it occupies in the book, and that none of them can fail to interest and instruct the student, or the practitioner who may be deficient in experience or in sound physiological, pathological, and therapeutical principles, or who would learn the value of simplicity combined with efficiency in medical treatment; and even the erudite and skillful will be well rewarded by a perusal of the work. Nor can we refrain from again expressing our surprise and gratification at finding these lectures so remarkably exempt from the superficial views that abound in the great thoroughfare of medicine. Nor is it the least valuable part of our author's labor, that it is embellished with religious and moral precepts, philanthropic suggestions, inculcations of delicacy, and examples of kindness to the suffering poor. Let us have, in conclusion, an illustration of all this in a brief apostrophe of exquisite pathos:—

"The case before you is well calculated to excite your sympathy. Here is a poor woman in feeble health, affected with a formidable disease, and yet compelled to seek her living by her own labor. Poverty, indeed, is no crime, but it is a trying inconvenience. [Here the patient exclaimed:—'Yes, doctor, dear, it is inconvenient with this load of sickness upon me; but the Lord has afflicted me because I am a sinner, and I am content, and will bear my sufferings with all the strength I can.'] What an example is this poor woman to the discontented and dissatisfied of the earth! She is tranquil in mind, and submissive under her severe distress": p. 167. M. PAINE.

ART. VI.—*Medico-Chirurgical Transactions.* Published by the Royal Medical and Chirurgical Society of London. Vol. xxxvii. London, 1854. 8vo. pp. 264.

THE publications of the *Royal Medical and Chirurgical Society* now extend over a period of nearly half a century, and form a series of volumes which may be regarded as the largest storehouse of medical facts to which the English reader has access. The present volume fully sustains the high character of the series, though it is hardly equal to some of its immediate predecessors in the originality and importance of its papers. We cannot, we are persuaded, render the medical reader a more acceptable service, than by giving a brief analysis of the several papers which compose this volume.

Scrofulous Caries of the Left Astragalus—Excision—Cure—Formation of a Fresh Joint. By S. F. STATHAM, Assistant Surgeon, Univ. Coll. Hosp.—The patient was a child, æt. 5, of strumous tendency, in whom an abscess formed below the outer surface of the left ankle, which, on being opened, was found to expose the astragalus in a softened condition; the ankle-joint was healthy. Medical treatment having failed, the operation of excision was performed; the astragalus and the upper portion of the calcaneum were removed through a crucial excision made on the external surface of the foot. The extremities of the tibia and fibula were sound, and also the tarsal bones; the wound was filled with lint, and a splint applied to the inner side of the leg and foot. The patient's recovery was rapid and complete. Considerable motion of the joint is retained, and, with the aid of a nicely-adapted boot, "the lad is able to walk and run without any pain, and with merely a halt, partly due to the incumbrance of the instrument.

Pathological Remarks on the kind of Palpebral Tumor, usually called, in England, Tarsal Tumor. By H. HAYNES WALTON, ESQ., F.R.C.S., Surgeon to the Central London Ophthalmic Hospital.—This paper is an inquiry into the pathological character of a tumor of the lid, which has been variously called "fibrinous tumor," "tarsal tumor not encysted," "albuminous tumor."

Notice of a Case of Skin Disease accompanied with Partial Hyper-

trophy of the Mammary Gland. By James Alderson, M. D., F. R. S. Physician to St. Mary's Hospital.

Case of Mollities Ossium, preceded by Degeneration of the Muscles. By Thomas K. Chambers, M. D., Physician to St. Mary's Hospital.—The chief points of interest in this case were the extreme general and muscular debility of the patient without any assignable cause, and the subsequent development of mollities ossium in its most aggravated form.

On the Keloid of Alibert, and on true Keloid. By Thomas Addison, M. D., Physician to Guy's Hospital.—The object of this paper is to draw a distinction between the affection generally recognized as the Keloid of Alibert, and another disease originating in the same tissue having an essentially different and more serious result.

On the Blood and Effused Fluids in Gout, Rheumatism, and Bright's Disease. By Alfred B. Garrod, M.D., Prof. of Mat. Med. at University College.—Dr. Garrod describes in this article a simple method of determining approximatively the amount of uric acid contained in the serum of the blood in certain diseases, which he styles the "Uric Acid Thread" experiment. It is as follows:—

Take from one to two fluid drachms of the serum of blood, and put it into a flattened dish or capsule; those which I prefer are about three inches in diameter, and about one third of an inch deep, which can be readily procured at any glass-house: to this is added the strong acetic acid of the London Pharmacopœia, in the proportion of about six minims to each fluid drachm of the serum; a few bubbles of gas are generally evolved at first; when the fluids are well mixed, a very fine thread is introduced, consisting of from one to three ultimate fibres from a piece of unwashed huckaback or other linen fabric, about one inch in length, which should be depressed by means of a small rod, as a probe or point of a pencil. The glass is then put aside in a moderately warm place, until the serum is quite set and almost dry; the mantel-piece in a room of the ordinary temperature answers very well, the time varying from eighteen to forty-eight hours, depending on the warmth and dryness of the atmosphere. Should uric acid be present in the serum in quantities above a certain small amount noticed below, it will crystallize, and during its crystallization will be attracted to the thread, and assume a form not unlike that presented by stone sugar upon a string. To observe this appearance, a linear magnifying power of about fifty or sixty, procured with an inch object-glass and low eye-piece, or a single lens of one sixth of an inch focus, answers perfectly. The uric acid is found in the form of rhombs, the size of the crystals varying with the rapidity with which the drying of the serum has been effected.

On Excision of the Knee-Joint. By G. M. Jones, Esq., Surgeon to the Jersey Hospital.—Mr. Jones furnishes us in this paper a table of all the cases of excision of knee-joint which he has been able to collect. The whole number is thirty-three; of this number twenty recovered, nine died, three under treatment, one doubtful.

Since the publication of Mr. Jones' paper, Mr. Butcher, of Dublin, has published the details of his case (*Dublin Quart. Jour.*, Feb., 1855), with the addition of a table containing all the cases operated upon since July, 1850.

On the Radical Cure of Reducible Inguinal Hernia, by a new Operation with Cases and Remarks. By T. SPENCER WELLS, F. R. C. S.—The design of Mr. Wells' paper is to lay before the English medical public a new method of curing reducible inguinal hernia. This new method is that of Professor Wützer, of Bonn, and was presented to our readers in the January (1854) number of this Journal.

Operations of Morbid Changes in the Mucous Membrane of the Stomach. By DR. HANFIELD JONES.—In an examination of the stomachs of a hundred deceased persons taken as they presented themselves, Dr. Jones arrives at some important conclusions in regard to the diseases of this organ. The following are the deviations from the typically healthy condition which he observed :—

1. *Nuclear masses.* These are the solitary glands, and Dr. Jones is doubtful in regard to the degree of their development within the physical limit. 2. *Diffused nuclear formation*, extending in extreme instances uniformly throughout the mucous membrane, and causing atrophy of the tubes. 3. *Intertubular fibroid formation;* this condition is commonly associated with the preceding, and consists in this, that the exudation in which the nuclei lie, passes into the form of a more or less fibroid, or homogeneo-fibroid stroma. 4. *Spontaneous decay of the tubes*, giving the mucous membrane the appearance of a mass of granular and celloid dèbris, interspersed with fat vesicles and fatty matter. 5. *Deposit of black and yellow pigment;* occasionally within the tubes, more often between them. 6. *Cystic formation;* either by liquefaction of a nuclear mass, by distention of a tube, or by the formation of a cyst *de novo.* 7. *Mammillation;* this is of two kinds. One may be called healthy and seems to depend upon a contraction of the corium of the mucous membrane, due to its organic muscular fibre; the other depends upon a fissuring of the mucous membrane or local atrophy. 8. *Gathering up of the lower parts of the tubes* in the pyloric region, so as to form a group of convolutions something like the acini of a conglomerate gland is often observed.

No satisfactory explanation of this change can be given. 9. *The epithelium of the tubes* may become fatty, atrophied, &c., these changes not being well made out. 10. *Self-digestion* in slighter degrees is very common, and invariably most marked in the splenic region.

Dr. Jones gives a careful analysis of his tables, and exhibits an interesting view of the comparative frequency of these pathological appearances in different portions of the stomach, at different ages, and in the sexes. The following suggestive remarks conclude this highly instructive paper :—

> In concluding this paper, which I feel is but a first labor in a hitherto little cultivated field, I cannot but remark how strongly the degenerative tendency characterizes the disease of the present day. We know not whether it was so in former times, but for ourselves the lesson is plain and clear, that the integrity of the vital force, which we call health, must be carefully cherished if it is to be long preserved. From diminished vital power there is no great step to organic decay ; and if the one exists any length of time, there is too much reason to fear that the other is in progress. If the researches I have made do nothing more than show that degenerative change in one important organ is no unfrequent event, and it requires but a moderate pathological experience to show that the same is true with respect to many other parts, how does it then behoove us to look out for and anticipate, as far as possible, these insidious disorganizing processes, against which our therapeutic endeavors are often so unavailing!

A Case of fatal Asphyxia, caused by the Detachment of a Diseased Bronchial Gland which was impacted in the Larynx. By GEORGE EDWARDS, of Wolverhampton.—The particulars of this case appeared in the Retrospect of the January number of this journal, to which the reader is referred.

Remarks on a peculiar Form of Tumor of the Skin, denominated "Pachydermatocele" illustrated by Cases. By VALENTINE MOTT, M.D. C.L.D., Emeritus Prof. of Surgery in the University of New York.—We are gratified to see our distinguished countryman, Prof. Mott, honoring his election to a membership of the *Royal Medical and Chirurgical Society* by the contribution to its transactions of so valuable a surgical paper. We need scarcely add, that we should have been still more pleased to have found this contribution to medical science in one of our home periodicals, or the transactions of the *American Medical Association.* But we can well afford to spare this literary effort from our original periodical literature, for Prof. Mott, with his multiplicity of engagements, has been no sinecure, as the journalism of our city and country attests. We trust this paper is the pledge that neither a firmly-settled reputation, active professional pursuits, nor declining age, are to deprive our profession of occasional contributions from his experienced pen.

The disease to which Prof. Mott gives the name of *pachydermatocele* is congenital, having its origin in a brown spot or mole, and increasing with the years of the individual until they present hideous deformities.

The morbid structures have all been more brown than the surrounding integuments, with a flabby feel, very like a relaxed and very emaciated mamma. In several of the cases there were two or three layers or stories, as in the one upon the neck and shoulder, resembling the fanciful and successive turns of a tippet, or three separate folds of a rich maroon velvet curtain. They do not appear to possess any great degree of vascularity, neither having veins visible upon the external surface, nor diminishing in size much after being detached from the body, therein differing essentially from the nævus maternus, or aneurism by anastomosis. * * * * * On cutting a slice transversely, or making an incision into these growths, the sub-dermoid structure to the eye seems to be hypertrophied areolar tissue, with very little evidence of blood vessels running through it. From their general appearance and duration, there is no evidence whatever of anything malignant in their structure or tendency. In one of the cases there was a return of the same kind of tumor upon the same spot, namely, the head, though to a less extent, demanding a second excision, and it returned again, and is now of the same shape and character as at first. In another patient, a boy, the same disposition to return was observed during the granulating process, but it was completely conquered by the patient and skillful application of compressed sponge and the roller bandage. In the other three cases, there was no disposition whatever to a reproduction of the disease. The sense of feeling was somewhat diminished below the natural standard in all of the cases. In only one was there any ulcerative action, and this arose entirely from want of attention to personal cleanliness. The largest required to be carefully washed every day with soap and water, then well dried and powdered with some farinaceous substance. If this was neglected for one day, an acrid fetid discharge took place, soon leading to excoriation.

Five cases of this disease are reported in the paper, and the different operations necessary to their removal fully described. We shall have space to introduce but one case, which will afford a fair illustration of the nature of the tumor, and the operation undertaken for its removal.

Case V.—This was truly a monstrous morbid production. Though disgusting and even frightful, to ordinary beholders, there was, in its organization and external characters, looking at it as a morbid growth, something symmetrical and beautiful. From the mother's statement, it was observed soon after birth. Miss L——, æt. about 45 years, of robust country health, came to me from the western part of the State of New York, as she said, to show me a tumor, and to know if it could be removed. From the compact and regular arrangement of her dress, the impression on my mind at once was, that it was no great importance as to size. My astonishment was not a little excited, as she removed her dress from the chest and neck, not only from the immense size of the mass, but that it could all be so completely stowed away, as not to disturb the apparent symmetry and harmony of her proportions. The tumor was of a dark brown or copper color, of a soft, elastic feel, very much resembling a collapsed lung or a placênta. It hung in beautiful and fantastic folds, like the convolutions of a tippet over the neck, shoulder and chest. There were five of these folds or stories, the smallest above, the longest or broadest below. It was attached to the healthy integuments behind and in front of the ear—directly under its lobe—to the entire extent of the side of the neck from near the nucha to the edge of the larynx and trachea, to the whole line of the clavicle and middle of the upper bone of the sternum, over the shoulder, part of the scapula, and reaching upon the arm to near the insertion of the deltoid muscle—over the entire pectoralis major to the middle of the sternum and ensiform cartilage, and to the upper part of the rectus abdominis and latissimus dorsi, with a portion of the serratus magnus anticus. The lowest loose fold hung a little below a line with the umbilicus. The entire length of the tumor was twenty-one inches, its breadth eighteen inches. Stating to her that I thought it might be removed, she requested to have the operation performed if there was, as she said, "any chance of her life." Being made insensible with chloroform, the operation was performed in the following manner:

An incision was made a little below the tumor, across the lower part of the deltoid muscle, and the growth was dissected from this muscle to the top of the shoulder, then from the side of the thorax and upper part of the abdomen, then from the whole line of the clavicle, the upper part of of the sternum, the back of the neck, and from the trapezius muscle, it was now detached from about the ear, and the dissection continued towards the front part of the neck, in the direction of the course of the sterno-cleido mastoïd muscle, until it terminated by an incision over the mesial line of the larynx and trachea in their entire length. In all this extensive dissection many arteries required ligatures, and some of them were of considerable size. The most remarkable, and indeed monstrous, were two veins entering the subclavian, no doubt the external jugular in its anterior and posterior branches, each apparently separate. Their size was the greatest I ever saw in any superficial veins, being each not less than my fore finger. They were running close together, and were seized successively the instant on being cut with the forceps, and were tied to prevent the admission of air, from which, on one occasion, I had seen frightful and almost fatal effects. As the tumor originated on the upper part of the neck, these two enormous superficial veins were probably the principal channels for returning the blood from the whole abnormal mass. They lay side by side, as they went through the deep cervical fascia, but probably just on entering the subclavian, they united, as is usual in the normal state. As the operation was considerably protracted, from the extensive superficial dissection, and the large number of arteries which required ligatures, some exhaustion followed, but she was not alarmingly depressed at any moment, and quickly rallied when the anæsthesia was allowed to pass off.

With the exception of two attacks of erysipelas, one of which imminently threatened the life of the patient, the case progressed favorably, and resulted in complete and permanent recovery. The specimen was submitted to microscopical examination by Prof. Swett (not Lovett as the English print has it,) who thus reported: " The specimen appears to me to consist of an hypertrophy of the skin, and of the sub-cutaneous cellular tissue. Under the microscope I find nothing but an exaggeration of the natural tissues. There are no evidences of a malignant formation."

The paper is accompanied with two well-executed lithographic plates representing these tumors.

Case of Distortion of the Spine, with Observations on Rotation of the Vertebræ as a Complication of Lateral Curvature. By THOMAS HODGKIN, M.D., L.R.C.P., and WM. ADAMS, F.R.C.S.—These authors report the dissection of a remarkable case of spinal deformity in which there was a transverse rotation of the lumbar vertebræ to the left, the change depending upon absorption of the intervertebral cartilages. The patient, the distinguished geologist, Gideon Mantell, had been examined by Liston, Brodie, Bright, Lawrence, Coulson, &c., but no one suspected the true nature of the disease, the obscurity of the case depending upon the want of deviation of the spinous processes, though there actually existed severe lateral curvature and the appearance of a tumor. The general opinion was that destructive disease existed either in the bodies of the vertebræ or intervertebral substances, and was accompanied by lumbar abscess. The tumors observed were the transverse processes, which were rendered prominent by this gradual rotation of the bodies of the vertebræ, while the transverse processes upon the right side gradually disappeared. This peculiar change seems to have been recognized and described by Dr. Dods, in his work *Path. Obs. on the Rotated or Contorted Spine, &c.*, published in 1824. He believed that it was produced in every instance " by a peculiar affection of the muscles of the back, which affection of the muscles does not, in my opinion, primarily and necessarily, unnaturally crook or curve the spine in any direction, but *rotates or twists* it in the line of its axis; and that this rotation, or twisting of the spine, is, in itself, sufficient to explain, in the most satisfactory manner, all the phenomena of this important deformity." He was accustomed to treat his cases by frictions with oil to the spine, and, during his manipulations, he discovered these bony projections, always upon the *left side*, and having noticed whether there was any apparent lateral curvature or not, he ascribed them to their proper cause, viz: the transverse processes of the vertebræ of the loins.

On Gout and Rheumatism; the Differential Diagnosis, and the Nature of the so-called Rheumatic Gout. By Alfred Baring Garrod, M.D.—In this communication Dr. Garrod gives the analysis of the blood in one hundred and seventy-seven cases, tabulated thus:—1. Articular affections, in which was demonstrated the *presence* of an abnormal amount of uric acid in the blood. 2. Articular affections, in which the *absence* of uric acid in the blood was shown. 3. Articular affections, proved to be closely connected with *urethral* affection. 4. Affection *non-articular* in character. The examination was generally by the "uric acid thread," already described in the notice of Dr. Garrod's former paper. The result of these experiments are of the highest interest in practice, as proving that gout and rheumatism are quite distinct diseases. We shall merely quote this part of the paper, and dismiss it:—

In conclusion, as we have found that the blood in every patient suffering from genuine gout, contained an abnormal amount of uric acid, and that in acute and rheumatism such was not the condition of this fluid; and again, that in all cases which could be traced up to gout (although the symptoms exhibited at the time might not be very characteristic) uric acid was present, whereas it was absent in those cases where no such phenomena could be found, I think we shall in future be fully justified in considering this condition of the blood as not only a most important, but even a *pathognomonic* sign, and one more to be depended on than any of the other symptoms taken separately; and that in an otherwise doubtful case, where the diagnosis rests between gout and rheumatism, the presence or absence of this acid in the circulating fluid (determined either from the examination of the serum of the blood or blister exudation) may be looked upon as decisive of the question. * * * * It will be seen that the specific gravity and reaction of the blood has been noticed in the majority of cases; with regard to the latter property I may state that I have *always* found it *alkaline*, both in gout and rheumatism, and I am perfectly confident that the opinion which has been held by some to the effect that in acute rheumatism it becomes acid, is completely erroneous.

Case of Traumatic Aneurism of the Ophthalmic Artery, consequent on Injury of the Head, cured by Ligature of the Common Carotid Artery. By T. B. Curling, F.R.S., Surgeon of the London Hospital.—The facts of this interesting case are briefly these: A laborer, æt. 49, rheumatic and feeble, was admitted to the hospital with fracture of the clavicle, hemorrhage from the right ear, and symptoms of concussion, following a fall upon the right shoulder, and right side of the head. With active antiphlogistic treatment he gradually rallied, but at the end of a week total deafness in the right ear came on, serous discharge continued, and the face was drawn to the right side, though the tongue could be protruded straight forward. Blisters, calomel, etc., relieved the paralysis, when the right eye became slightly inflamed with chemosis; the eye-ball now began to be prominent, with pain in the head, etc. This protrusion increased until pulsation was detected, and a bruit heard on placing the ear against the right temple; the pain was of a throbbing kind; vision finally began to be impaired. A ligature was now applied to the carotid in the upper third of its course, which at once relieved the throbbing pain in the head, and pulsation of the eye-ball; its prominence subsided, but vision was greatly impaired. Mr. Curling refers to two other similar cases, in one of which vision was permanently lost, and in the other saved but with a fixed pupil. We may add to these three cases a fourth which occurred at the New York City Hospital last year under Dr. Van Buren.

English Statistics of Hooping-Cough. By EDWARD SMITH, M.D., L.L.B.—The facts of this communication are drawn from the Registrar-General's Reports, and the conclusions, which we must give without comment, are:—

> The deductions in reference to hooping-cough do not correspond to the general mortality. They are directly opposed to the zymotic class, and have little relation to the nervous class, but exhibit a remarkable correspondence with the pectoral class (excluding phthisis). This latter fact indicates a close analogy between fatal cases of hooping-cough and chest affections.
>
> It is a disease essentially of the period of dentition of the first series, and under æt. 1 year is the most fatal of all diseases. * * * *
>
> The mortality is more prevalent in females at every period of life, and this prevalence increases as life advances; but it does not thence follow that the disease itself is more prevalent in that sex. * * * *
>
> The degree of temperature, and the number of deaths, are in the inverse ratio to each other. The greatest mortality is observed in the first quarter, and also in the winter half-year, and the least mortality in the third quarter and summer half-year. The maximum month is about April, and the minimum about August, and the mortality passes from the latter to the former and back again in uniform waves. The highest temperature precedes the lowest mortality by about a month, and an excess of it does not produce excessive mortality from hooping-cough. The line of temperature separating high from low mortality is 48°. The waves of the greatest intensity of mortality occur every second year, being then 76 and 74 cases per week, in contrast to 47 and 52 cases per week, observed as the highest mortality in the alternate years, or those of recession. After a severe outbreak of the disease, there is diminished intensity, and lessened temperature does not then produce its ordinary ill effects. As the year of recession leads into that of intensity, the intensity becomes so great as to move *in advance*, and not in the rear, of the lines of temperature, contrary to the established rule.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

On Circular Cauterization of the Base of Hemorrhoidal Tumors complicated with Prolapse of the Mucous Membrane of the Rectum.

By Dr. Alphonse Amussat, Jun.

Messrs. Editors:—

Some months since I received from Dr. Alphonse Amussat his interesting monograph *on Hemorrhoids*, and a complete set of the stereotyped plates, accompanied with the request that I would translate the paper into English. Since then, numerous engagements have interposed to prevent the completion of this object, and in the mean time an excellent translation of the paper has appeared in the *Dublin Quarterly Journal.* In this translation one valuable note has been omitted entirely, and the cases reported by the author have been abridged, but the substance of each is still retained. In other respects the translation is neat and faithful.

As this monograph is a valuable contribution to our knowledge of this class of surgical affections, I take the liberty of sending you the plates, with the suggestion that you republish the translation of the *Dublin Quarterly* in the *New York Journal of Medicine.* For myself, I have only added the note referred to as omitted.

Respectfully,

Frank H. Hamilton.

Buffalo, *May* 20, 1855.

The number of works which, both in ancient and modern times, have been published on the subject of hemorrhoids, the place which this affection occupies in pathological treatises, and the various remedies proposed against it, testify at once to its frequency and its importance. The question, so long debated, of the expediency of surgical interference in affections of this nature, has not yet been decided in the minds of all practitioners, and I have no intention of entering here on a discussion which would lead me beyond the limits I have laid down for myself. A survey of our periodical literature will at once show the efforts which the most distinguished physicians and surgeons of all countries have made, especially since the commencement of the nineteenth century, to facilitate and render more certain the cure of this disease, whether, in its simple form, it constitutes principally an annoyance and an inconvenience, or complicated with ulceration, severe hemorrhage, or prolapse of the neighboring rectal mucous membrane, it threatens life, or slowly exhausts the patient's strength. The therapeutics of this affection are consequently more than ordinarily rich in medicines, and varied operative proceedings.

For my part, whenever hemorrhoids are of long standing, voluminous, ulcerated, accompanied by prolapse of the mucous membrane of the rectum, or with copious hemorrhages; when they affect the general health; and when the more ordinary therapeutic means have failed, and no special contra-indication exists, I remove one or more, according to their number and volume.

During twenty-five years that my father has pursued this plan, the destruction of the hemorrhoids, combined with the precautions he has recommended to the observance of his patients, has never given him other than satisfactory results, both as respects the local condition of the parts, and the state of the general health.

Prolapse of the mucous membrane of the rectum, being one of the most frequent complications of confirmed and long-standing internal hemorrhoids, has appeared to me worthy of fixing our attention, both as to its etiology and its treatment. Admitted by most authors, this prolapse is easily explained when we carefully study the course of the principal affection. In the beginning, hemorrhoids appear as the effects of hereditary predisposition, of constipation, a sedentary life, the abuse of stimulants, or of a too nutritious diet, and are at first formed only by a determination of blood to the vessels of the inferior extremity of the rectum; little tumors, invisible externally, are soon developed, and become the seat of itching and of tension, which increase under the influence of the producing causes, often disappear to return again, and are, in a great number of cases, accompanied by more or less abundant hemorrhages.

The affection in this simple state belongs to internal pathology, and a return to suitable hygienic rules, or the adoption of a very simple antiphlogistic treatment is, most frequently, sufficient to overcome it. But when, continuing to be developed, the hemorrhoidal tumors have acquired a certain volume, they begin to appear at the anal orifice, which they more or less obstruct; and however little the patient may be constipated, as is most usually the case, the hardened fæcal matters push down the tumors before them during the action of the bowels. The consequence is, that the mucous membrane of the rectum, necessarily following their movements, becomes as much lengthened as possible; but soon this extension ceases to be sufficient; united to the muscular membrane by a loose cellular tissue, it is gradually separated from it, and subsequently returns with progressively increasing difficulty, being retained externally by the hemorrhoidal masses, and the sphincter compressing them. If the patient, induced by deceptive inclinations to go to stool, by pain, or any other cause, acquires a habit of making prolonged efforts at defecation, the hemorrhoids increase, and the prolapse of the mucous membrane augments to that point, that it soon becomes impossible to return it after each motion without the employment of a regular taxis. By degrees, the sphincter becoming relaxed, the hemorrhoids come down on the least movement; at last a period arrives when they remain constantly out, unless they are retained by a bandage specially adapted to the purpose, the presence of which—always inconvenient—finally becomes insupportable. These facts I have verified in a sufficiently great number of patients, and I shall hereafter quote cases which will establish them.

In some very rare instances a protrusion of the rectum and internal hemorrhoids coexist; we have, then, two distinct affections to treat. During ten years that I have attended my father's practice I have only once had an opportunity of observing this coincidence,* while I have often seen long-standing voluminous hemorrhoidal tumors accompanied by a more or less extensive prolapse of the rectal mucous membrane.

Since the month of April, 1844,† the date of the first employment of the cauterization of the base of hemorrhoidal tumors with grooved forceps charged with Filhos' caustic, the idea of which originated with me, we had perceived that this new mode of operation enabled us to obtain the cure of hemorrhoids, and that the hemorrhages, ulcerations, &c., disappeared together with the tumors; but it remained to be shown whether, in cases in which these affections should be complicated with tolerably extensive prolapse of the rectal mucous membrane, cauterization by the same plan would remedy the principal affection and its complication. Experience has not been tardy in justifying the hope we had entertained in this respect. It is, moreover, easy to account for this result, which we verified in all our operations of this kind, in reading the description of our proceeding. The cases of the patients in whom this complication was sufficiently advanced, and the drawings taken from nature, which I have appended to them, will, I trust, enable practitioners to understand it.

When we are about to examine a patient, whom we suppose to be affected with internal hemorrhoids, we cause him to place himself on a vessel, and to make efforts at defecation; the tumors then come down, and we easily demonstrate their presence; often they even permanently appear externally, or show themselves on the exercise of the least effort. But as it is necessary to judge precisely of the extent of the prolapse of the mucous membrane of the rectum, we advise the patient to take a lavement, and to pass it again in our presence some moments after, using efforts, and continuing the latter when he gets up. With the assistance of this mode of investigation, we arrive at an exact appreciation of the extent of the affection, and the operator is enabled to judge beforehand at what height he ought to place the *porte-caustique* forceps, in order to cure at once the hemorrhoidal affection, and the rectal prolapse which complicates it.

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* Mémoire sur la destruction des Hémorrhoïdes Internes, par la Cauterisation circulaire de leur Pédicule. Par J. Z. Amussat. 1836. Page 23.

† Ibid., p. 22.

The introduction of the index finger into the rectum is a means of diagnosis on which we must not place too much reliance, for I have known several patients who, examined in this manner by the most distinguished practioners, had been declared not to have hemorrhoids, and in whom I, nevertheless, found even voluminous ones. The surgeon accustomed to this mode of examination, indeed, experiences internally a peculiar sensation of softness in certain points, proves the existence of inequalities rather than of tumors disappearing under the finger, and gives pain to the patient when the tumors are ulcerated; but in general these signs are not sufficient to enable him to affirm whether a hemorrhoidal affection exists or not. The rectal *toucher* is especially useful in ascertaining whether any particular complication, such as a stricture, polypus, or cancer, coexists.

At the same time we examine the number of tumors which ought to be cauterized, as, for the following reasons, we never destroy them all:—In order not to suppress suddenly and completely a state to which the system has long been accustomed, and not to expose the patient to a disturbance which might not be free from inconvenience; besides, experience has shown, that when we have destroyed the more voluminous tumor when there are two, or the most voluminous ones when there are more, those which remain diminish and give much less inconvenience. The cauterization of the largest hemorrhoid, when well performed, often prevents the others coming out, and the ulcerations, if such exist, being no longer subjected to a continual friction against one another, cicatrize, and the patients enjoy as good health as if they had been completely freed from them. Consequently, a different mode of proceeding would be at least useless, and might sometimes be dangerous. If, contrary to what usually occurs, the patient should subsequently suffer, recourse might be had to the operation, which would not then be more severe than before, and would remedy an inconvenience which we sometimes meet with, but which much more frequently does not present itself.

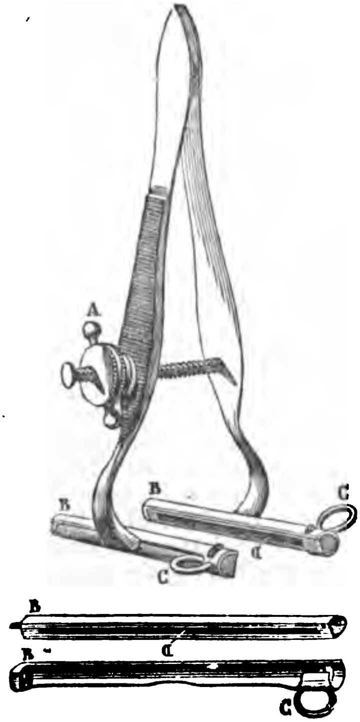

Fig. 1.

In ordinary cases I employ my forceps in the form of a compass with protecting blades,—more convenient when it is necessary to carry the cauterization to an elevated point of the rectum,—but in the case of which I am now speaking I prefer the T-forceps of my father, or those which I have had made on the same plan, with very slight modifications. In fact, when there are voluminous hemorrhoids, with more or less extensive prolapse of the mucous membrane, the tumors expanding largely externally, it is very easy to cauterize their base.

Since the month of June, 1844, the period of the construction of my first grooved forceps for the cauterization of internal hemorrhoids, we have subjected both the instruments and the operative manipulation to numerous modifications, which have made the operation so simple that a perusal of the description of it will render its application easy; and already distinguished surgeons, among whom I would mention MM. Maher, J. Roux, and Laurencin, Professors in the schools of the Imperial Marine, MM. H. Larrey, Barthélemy, Martin Saint-Ange, Thirion (of Namur), Mascarel, &c., have employed this proceeding with success, using instruments made on the model of ours, or having the greatest analogy to them.

The T-shaped porte-caustique forceps of my father, a drawing of which is given on p. 114,* was made on the model of a little forceps he used for rupturing the internal membranes of arteries, in order to facilitate torsion. This instrument is composed of two legs, united at one of their extremities by a spring; at the other they are furnished with two grooved semicircles of steel, D, perpendicular in their direction, and so arranged as to oppose one another when the forceps is closed, or when it embraces the base of the tumor which it is wished to cauterize. Two small sliding plates, B, having a movement of rotation around the grooves, which are cylindrical, have at one of their extremities a small handle, C, intended to be used for moving them, and consequently to cover or uncover the caustic when it is thought advisable to do so. A screw, A, is used for tightening the legs of the instrument. The two sliding plates, to which I have given the name of protectors, have partly replaced the preserving forceps which we originally used for completely isolating the tumors from the surrounding parts previously to cauterizing them. When the protectors are placed in front of the grooves, the caustic being entirely covered, we may seize the tumors, let them go again, take hold of them, or slide the grooved semicircles to a greater or less height, without the patient experiencing the slightest painful sensation.

To fill the grooves of the instrument, I employ Filhos' caustic in paste, or solid. The caustic paste is made by throwing a sufficient quantity of pulverized Filhos' caustic into a saucer, adding some drops of alcohol or eau de Cologne, and triturating the mixture with a spatula. When the paste has the consistence of ordinary honey it is placed in the grooves, and covered with the protectors. To fill them with solid caustic, the latter is poured into them while in state of fusion.

I have had forceps made on this model with but a very slight difference, as may be seen by Fig. 2, on next page. This instrument, to which I have given the name of *pince porte-caustique à étau* (these instruments have been made in the manufactories of M. Charrière), constructed at once on the model of my father's forceps, and of a little hand-vice, differs from his instrument in this,—that the grooves, B, which are movable on their axis, being placed in other grooves, A, attached to the legs of the forceps, may be withdrawn, and have the fused Filhos' caustic easily poured into them; besides, the resistance of its legs admits of the tumor being compressed as with a vice, and of the production of mortification by pressure. This forceps acts then at the same time by cauterization and pressure combined, and allows us to operate more rapidly, since each of these actions is separately sufficient, though it requires more time, to accomplish the mortification of the tumor. When about to use these forceps, the grooved pieces, B, are withdrawn, and fused Filhos' caustic is poured in so as to be level with the edges without overflowing them; should it overflow, it must be rubbed off with a cloth, or a piece of pumice stone, until it is exactly level; the two little grooves are then inclosed in a ground glass stoppered bottle filled with powdered lime, in order to preserve the caustic from the contact of the air, and from moisture. At the time of operating they are well wiped and replaced in the forceps, and turned round, so as to cover the caustic until the moment when it is to act upon the tissues. To effect the cauterization in this particular case I prefer the T-forceps, because, their grooved portions being parallel, they exercise upon the tissues a pressure in every sense equal; but this operation may be performed with the different forceps which have been constructed for cauterizing hemorrhoids; we may, even

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* This forceps is drawn one third less than its actual magnitude; the groove and blade, separately represented, are of the full size.

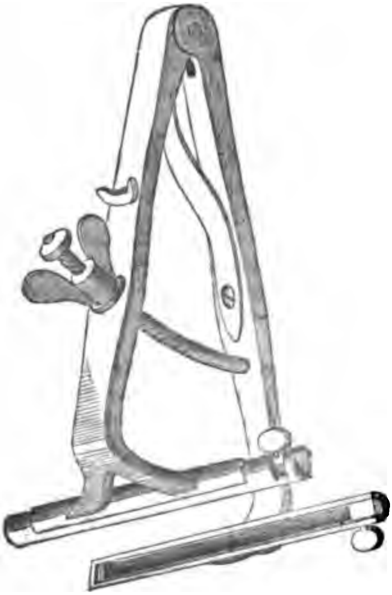

Fig. 2.

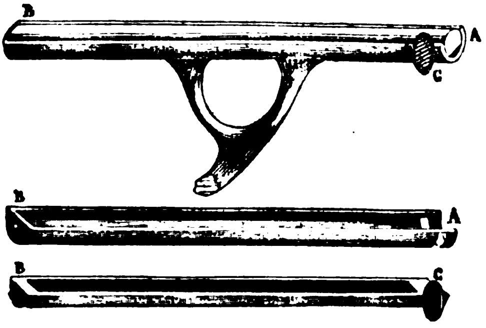

Fig. 3.

more easily than in other cases, cauterize the tumors with a cone of Filhos' caustic*, as I shall hereafter describe.

Internal hemorrhoids are often complicated with corresponding external hemorrhoids, or rather with swellings forming two rows of superposed tumors. Experience has proved that it is not necessary to destroy the external swellings—they die away when the internal hemorrhoids have been destroyed by caustic.

The operation having been decided on, I generally prepare the patient for several days previously with depuratives, baths, and mild regimen, even venesection, if it should appear necessary; and the evening before the operation I prescribe a purgative of cold-drawn castor oil, in order to unload the bowels, and to prevent the occurrence of alvine evacuations for two or three days at the least.

The articles necessary for the operation are: one or two porte-caustique forceps; pulverized Filhos' caustic; alcohol or eau de Cologne; a sheet folded square; a piece of oil-cloth; a syphon for continuous irrigation; a syringe, or a clyso-pump; two large vessels, one to contain cold water, intended for the irrigation to be carried on during the operation; the other to receive the fluid when it shall have passed over the anus.

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* The composition of Filhos' caustic is as follows:—

Caustic potash, prepared with lime	2 parts.
Quicklime	1 part.

Melt this mixture in a crucible, and run it, either in an ingot-mould, or in tubes of lead, zinc, or of very thin silver, as is practiced by M. Robiquet. Cut every part of the metallic cover, so as to expose a portion of the caustic, when needed for cauterization, direct and in masse, of hemorrhoidal tumors, or of any other excrescence, or of the neck of the uterus. This same caustic, when it is in fusion, can be run into thin plates by pouring it rapidly on a marble table, and in this state I often use it for linear cauterization.

When caustic in powder is needed we crush these blades, or bits of fused caustic of any other shape, in a marble mortar, and preserve it in a flagon, hermetically closed with an emery-fitted stopper. At the moment when we are about to operate, we mix in a saucer a portion of this powder with a little alcohol, so as to make a pretty stiff paste, which we place in the basins of the forceps.

The proportions of this caustic are different from those of the Vienna paste, which is composed of

Caustic potash, prepared with lime	5 parts.
Quicklime	6 parts.

As will be observed, in the caustic of Filhos the potash is in excess by one third, while in the caustic of Vienna it is the lime which is in excess by one sixth.

M. Filhos has observed that the excess of lime in the Vienna caustic renders the igneous fusion of the mixture more difficult, gives to the new compound a little too much consistence to be run with facility into the metallic tubes, and has, as a practical result, the serious inconvenience of diminishing the promptitude of its caustic action; a less quantity of quicklime would impart to the solidified mixture a portion of its deliquescence. Three minutes suffice with this caustic for making the escar necessary to establish a cautery. For cauterization of the neck of the uterus, it possesses all the advantages of iron at a red heat, without its inconveniences; for we may have the sticks of caustic so slender that they may be easily introduced into the interior of any ulcerated neck which it may be thought necessary to cauterize.

Before the operation the bed on which it is to be performed should be arranged. The folded sheet is placed across it, and is covered with an oil-cloth reaching to the vessel placed under the edge of the bed, to receive the water projected during the operation; and in order that the latter may flow off easily, the two inferior angles of the oil-cloth should be pinned together, so as to form a channel to carry the water directly into the vessel intended to receive it.

The patient, having taken a lavement during these preparations, passes it again, at the moment of operation, into a vessel left near the bed, and then lies down, still keeping up the efforts at expulsion, which are indispensably necessary to allow the surgeon to place the forceps properly.

The position of the patient which I prefer is the same as that for the operation for fistula in ano. Doubtless, if the patient were on his knees, or placed as for the operation of lithotomy, he would be better circumstanced for keeping up the efforts; but notwithstanding the advantage the operator might have by employing one or other of these positions, I have renounced them on account of the fatigue the patients experience—a degree of fatigue which once seemed to me to have occasioned syncope.

I am not in the habit of submitting my patients to the action of anæsthetic agents unless they earnestly request it; knowing by experience that the operation is not sufficiently painful to render their employment necessary, for under the influence of the very strong compression used, and of the douches of cold water, the pain is easily borne. During the operation the patient feels a pinching, which, in a great measure, masks the pain of cauterization, and consequently only complains of the latter at the moment of the withdrawal of the instrument. This smarting, besides, is diminished rapidly enough by the means I employ immediately after the operation. Two assistants placed at the sides are engaged in holding back the neighboring parts; a third is occupied in directing a continued stream of cold water on the anal region. Strictly speaking, one assistant, and that even a non-medical person, might be sufficient, as he would only have to work the piston of the instrument, for the operator could direct the current of liquid with the left hand, while he held the forceps in the right, but it is much more convenient to be assisted by several persons.

The patient having been placed on the bed in the manner described, and continuing the efforts at defecation made in passing the lavement, the assistants carefully keep back the surrounding parts. The operator, holding in his right hand the porte-caustique forceps with its troughs covered, so as to be able to touch the tissues without causing the least painful sensation, seizes the tumor gently, without compressing it, and desires the patient to make efforts, if possible, still more energetic, in order to allow him to pass the instrument to the height he judges advisable. This period of the operation, very important in all cases, is especially so in this. When the forceps is well placed, he tightens the screw sufficiently to prevent the tumor escaping, but so as to be able with ease to turn the grooved pieces or the protectors. When the caustic is in contact with the tissues, the instrument is tightened as much as possible, but gradually, in order to bring the compression to its maximum. By acting thus, the duration of the operation is shortened, and the pain is diminished, the patient most frequently complaining only of the pressure. The douche of cold water is immediately commenced, and continued while the operation lasts, which varies from two to four minutes. With strong forceps and fused caustic two minutes are longer than is necessary for cauterization.

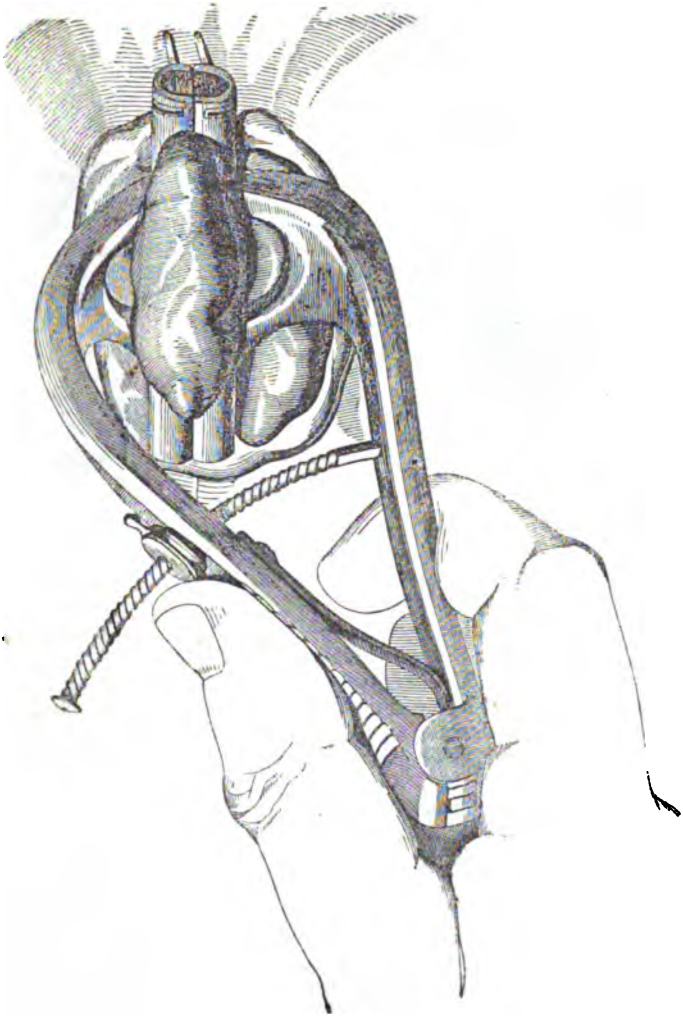

Fig. 4.

This figure represents a voluminous tumor caught with my forceps and vice with the caustic acting. For the representation of the pathological state, see Fig. 8.

The time, however, as may be supposed, varies according to the bulk of the tumors to be destroyed.

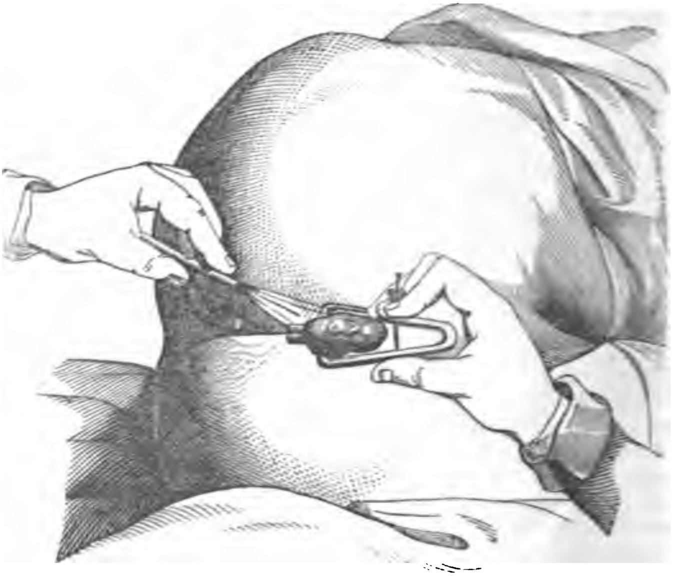

Fig. 5.

This figure represents the operator holding with his right hand the forceps placed upon the tumor, and directing the jet of cold water with the left.

The instrument is then gradually loosened and withdrawn, care being taken to re-cover the grooves to prevent the caustic touching the neighboring tissues. The assistants should keep the parts separated, and the patient should be again desired to make efforts at expulsion, that the cauterized tissues, on which a little caustic, the action of which is not yet over, still remains, may not cauterize those which should be protected.

The operation being over, the douches of cold water, both on the anus and internally, should be continued, so as to neutralize the last portions of caustic which may not have acted. I have often, with advantage, applied olive oil or vinegar and water to the cauterized parts.

Should a porte-caustique forceps not be at hand, the operation might be performed as follows:—The patient having been placed in the position I have described, and the same preparations having been made, the tumor it is wished to destroy should be seized, as high as possible, with an ordinary dressing or dissecting forceps, and cauterized directly, by placing in the centre a stick of Filhos' caustic cut into a conical shape, to which a rotatory motion should be given to make it penetrate the hemorrhoid, so as to destroy it centrally and laterally. It would be necessary, during the operation, to protect the surrounding parts with spatulas or paper knives, and afterward to wash the cauterized tumor with slightly acidulated water, so as to neutralise all the caustic which might not have combined with the tissues. The subsequent treatment should be the same as in the ordinary proceeding.

Immediately after the operation the patient is placed in a large bath, and when the tumors have been bathed for some moments they are returned. He remains in the bath for an hour, and sometimes longer, and always experiences great relief from it; for it is then he feels the action of the caustic, which had, during the operation, been masked by the pressure.

On coming out of the bath, cataplasms of linseed meal inclosed in muslin bags are applied to the anal region, or irrigations of tepid water are directed to the part, if smarting is still felt. The pain which patients experience after the operation is very variable; I have seen some who felt very acute smarting for twenty-four hours; but with the majority the painful sensation is, after some hours, but slight, if the precautions already mentioned have been observed. Some of my patients do not go to bed even the day of the operation; in general they remain sitting or lying on a sofa—for walking causes pain—and they are unable to go out for some days; elderly patients generally keep their room for a fortnight.

After the operation I allow but little nourishment, and that of a nature admitting of easy assimilation, in order to avoid action of the bowels, which always occasions acute pain. When the patients feel a desire to go to stool, I advise them to inject into the rectum two ounces of lard melted in a water bath; it is useful in facilitating the passage of the fæcal matters, and in diminishing the smarting caused by the motion. A tepid sitz-bath should be taken immediately after the stool. Sometimes I give, during the treatment, a gentle purgative, in order to remove constipation when the eschar is not yet detached; while it is, on the other hand, advisable that the patient should not go to stool at the time when the cauterized tumor is separating, in order to avoid the flow of blood which might then take place. An examination of the parts enables us to get a glimpse of the cauterized hemorrhoid, and to ascertain whether elimination proceeds more or less quickly; experience, however, has shown that, in general, the older and weaker the patients are the more slowly this process goes on. The falling off of the eschars requires a very variable time, generally from five to eight days. I have seen some become detached at the end of seventy-two hours, while in other patients they were still adherent fourteen days after the operation. To render the consequences of the operation as favorable as I have described, the patient ought to take every day several sitz-baths at a moderate temperature, rather cool than warm, to keep cataplasms or water-dressing constantly on the anal region, and to use a very light diet. When the swelling has disappeared the same treatment should be continued for some days, but the nourishment may be gradually increased; we may then, with advantage, form our opinion of the result of the operation, and decide whether it is necessary to cauterize other hemorrhoids.

Such are the operative manipulation and the treatment I employ in the affection under consideration.

(*To be Continued.*)

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

Proceedings of the Eighth Annual Meeting of the American Medical Association, held in Philadelphia, May 1st, 1855.

THE Eighth Annual Meeting of the American Medical Association, was held in Philadelphia, in the Saloon of the Musical Fund Hall.

The session was opened at 11 o'clock, A.M., the President, Dr. C. A. Pope, of Missouri, in the chair.

The President called the Association to order, and announced that the first order of business was the reception of the report of the Committee of Arrangement on the Credentials of Members.

Dr. Hays, Chairman of that Committee, presented the Report.

The roll was then called by the Secretary, Dr. West. The following list comprises the number, not only of the Delegates and members in attendance at the opening of the session, but those also who subsequently presented themselves.

Maine, 9; New Hampshire, 5; Vermont, 5; Massachusetts, 54; Rhode Island, 8; Connecticut, 35; New York, 81; Pennsylvania, 130; New Jersey, 44; Maryland, 31; District of Columbia, 12; Virginia, 18; North Carolina, 5; South Carolina, 17; Georgia, 1; Alabama, 4; Tennessee, 3; Kentucky, 8; Ohio, 28; Indiana, 5; Illinois, 9; Missouri, 5; Iowa, 1; Wisconsin, 5; Michigan, 9; United States Navy, 4; Parisian Medical Society, 1.

On motion of Dr. Biddle, of Pennsylvania, the President, Dr. C. A. Pope, was now requested to deliver the annual address.

On motion of Dr. J. B. Biddle, of Pennsylvania, it was

Resolved, That the thanks of the Association be tendered to the President for his able and interesting address, and that he be requested to furnish a copy of it to the Committee of Publication.

On motion of Dr. J. B. Biddle, of Pennsylvania, it was

Resolved, That a committee of one member from each State represented be chosen by the respective delegations of each State, to nominate officers for the ensuing year.

On motion, a recess of five minutes was taken to enable the delegations to carry out the object of the above resolution.

At the termination of the recess, the Association was called to order, when each of the delegations reported their representative on the Nominating Committee, as follows:

Maine, A. J. Fuller; New Hampshire, Silas Cummings; Vermont, G. T. Elliott; Massachusetts, C. P. Fiske; Rhode Island, Jos. Mauran; Connecticut, P. A. Jewett; New York, John McCall; Pennsylvania, J. B. Biddle; New Jersey, Lewis Condict; Delaware, Jas. W. Thompson; Maryland, Charles McGill; District of Columbia, Thomas Miller; Virginia, B. R. Wellford; North Carolina, O. F. Manson; South Carolina, P. C. Gaillard; Georgia, Richard D. Arnold; Alabama, P. H. Cabell; Tennessee, J. Berrien Lindsley; Kentucky, C. J. Blackburn; Ohio, R. Hills; Indiana, Joel Pennington; Illinois, J. V. Z. Blaney; Michigan, A. B. Palmer; Missouri, L. B. Perry; Iowa, J. E. Sanborn; Wisconsin, J. B. Dousman; U. S. Navy, Thomas Dillard.

Dr. Condie, of Pennsylvania, offered the following resolution:—

Resolved, That all permanent members who, in consequence of not having received in due time notification of their indebtedness, have had their names stricken from the roll, but who have since paid, or may hereafter pay their assessment, shall have their names restored to the list of permanent members.

Dr. Watson, of New York, offered the following as an amendment:—

Resolved, That no permanent member of this Association shall be deprived of his privileges as a permanent member on account of failing to contribute to the funds at any meeting at which he is not in attendance.

After some debate, on motion of Dr. White, of New York, the above resolutions were referred to a committee of three, with instructions to report what action, if any, is expedient in the premises.

The chair appointed Dr. White, of New York, Dr. Watson, of New York, and Dr. Condie, of Philadelphia, this committee.

Dr. F. C. Stewart, of New York, offered the following resolution:—

Resolved, That the Nominating Committee be instructed to present three names to the Association as candidates for the office of President, that the election of President shall be by ballot, and that the candidate who shall have the smallest number of votes, shall be withdrawn after the first ballot;—which, on motion of Dr. Boyle, of D. C., was laid on the table.

On motion of Dr. Atlee, of Pennsylvania, it was

Resolved, That the Nominating Committee be instructed to recommend the place for the next annual meeting of the Association.

Invitations to the Association were extended respectively by Dr. Pitcher, of Michigan, on behalf of the medical profession of Detroit; by Dr. Foster, of Tennessee, on behalf of the profession of Nashville; and Dr. Brainard, of Illinois, on behalf of the profession of Chicago, to hold its next session in the above-named cities. These invitations were, on motion, referred to the Committee on Nominations.

On motion of Dr. Frank A. Ramsey, of Tennessee, it was

Resolved, That so much of the President's Address, as refers to the subject of the place and mode of meeting of the Association be referred to the Nominating Committee.

Dr. D. D. Thomson, of Kentucky, moved that the regular order of business be suspended, in order to take up the amendments to the Constitution offered at the last annual meeting.

Several members objected, and the motion was lost.

The President stated that the next business in order was the reception of "members by invitation," when, On motion of Dr. Condie, the names of all "members by invitation" were referred to the Committee of Arrangement.

The President announced that the next business in order was the reports of the different committees appointed at the last annual meeting.

Dr. La Roche, on behalf of the Committee on Prize Essays, reported that the committee had received six essays in competition for the prize offered by the Association. That, although these essays evinced much ability and extensive learning, but one was decided to possess those qualities which deserved the award of the prize. The essay was entitled "Statistics of Placenta Prævia." The accompanying envelope was opened, and the name of the author was announced as Dr. James D. Trask, of White Plains, New York.

On motion of Dr. Condie, it was

Resolved, That the essay be referred to the Committee on Publication.

The following committees were called upon, but no reports were received:—

1. Dr. Worthington Hooker, of New Haven, on the Epidemics of New England and New York.

2. Dr. John L. Atlee, of Lancaster, Pennsylvania, on the Epidemics of New Jersey, Pennsylvania, Delaware, and Maryland.

3. Dr. W. D. Haskins, of Richmond, Virginia, on the Epidemics of Virginia and North Carolina.

4. Dr. D. J. Cain, of Charleston, South Carolina, on the Epidemics of South Carolina, Florida, Georgia, and Alabama.

5. Dr. W. L. Sutton, of Georgetown, Kentucky, on the Epidemics of Tennessee and Kentucky.

6. The Committee on the Prevailing Diseases of Missouri, Illinois, Wisconsin, and Iowa, Dr. Reyburn, chairman, presented their report with an abstract of the same, which last was read; and the former was, on motion, referred to the Committee on Publication.

The regular order of business was here interrupted, by permission, in order to receive the report of a special committee, when Dr. White, on behalf of the committee to which was referred certain resolutions in regard to the duties and privileges of permanent members, reported the following resolutions, which were adopted:—

Resolved, That no permanent member, who is not present at a meeting of the Association, shall be required to pay the annual assessment; but no such permanent member shall be entitled to receive a copy of the printed *Transactions* unless he pay into the treasury a sum not less than the annual assessment paid by the delegates and permanent members in attendance; and that all the names of permanent members that have been left off the published list, be inserted therein in the next volume of *Transactions*.

Resolved, That no assessment whatever shall be made against members by invitation, but that they also be entitled to a copy of the printed *Transactions* by paying the sum assessed upon delegates in attendance.

The regular order of business was now resumed, which was the report of Standing Committees.

The following committees were in succession called, but no reports were received:—

7. Dr. George Mendenhall, of Cincinnati, Ohio, on the Epidemics of Ohio, Indiana, and Michigan.

8. Dr. E. D. Fenner, of New Orleans, Louisiana, on the Epidemics of Louisiana, Mississippi, Arkansas, and Texas.

9. Dr. James Jones, of New Orleans, Louisiana, on the Mutual Relations of Yellow and Bilious Remittent Fever.
10. Dr. D. F. Condie, of Philadelphia, Pennsylvania, on the Causes of Tuberculous Disease.
11. Dr. Joseph Leidy, of Philadelphia, Pennsylvania, on Diseases of Parasitic Origin.
12. Dr. A. P. Merrill, of Memphis, Tennessee, on the Physiological Peculiarities and Diseases of Negroes.
13. Dr. Joseph N. McDowell, of St. Louis, Missouri, on Statistics of the Operation for the Removal of Stone in the Bladder.
14. Dr. F. Peyre Porcher, of Charleston, South Carolina, on the Toxicological and Medicinal Properties of our Cryptogamic Plants.
15. Dr. Daniel Brainard, of Chicago, Illinois, on the Constitutional and Local Treatment of Carcinoma.
16. Dr. George Engleman, of St. Louis, Missouri, on the Influence of Geological Formation on the Character of Disease.
17. Dr. Henry Taylor, of Mount Clemens, Michigan, on Dysentery.
18. Dr. Horace Green, of New York, on the Use and Effect of Applications of Nitrate of Silver to the Throat, either in Local or General Disease.
19. Dr. P. Claiborne Gooch, of Richmond, Virginia, on the Administration of Anæsthetic Agents during Parturition.
20. Dr. Charles Hooker, of New Haven, Conn., on the Diet of the Sick.

This report was read and referred to the Committee on Publication.

21. Dr. E. R. Dabney, of Clarkesville, Tennessee, on Certain Forms of Eruptive Fevers, prevalent in Middle Tennessee.

Dr. Sanford B. Hunt, of Buffalo, New York, from the Committee on the Hygrometrical State of the Atmosphere in various localities, and its influence on health, submitted a report, pending the reading of which

Dr. White, of New York, moved that this report, with the other reports of the Special Committees, be referred to the Committee on Publication, with the thanks of the Association to their authors.

Objections were urged against this course, and the motion was laid on the table by a very large vote.

The hour for terminating the session having then arrived, the Association adjourned.

WEDNESDAY, MAY 2.—The Association met at 9 o'clock, Dr. Pope, of Missouri, in the chair.

The minutes of yesterday's meeting were read and approved.

On motion of Dr. Condie, it was

Resolved, That the Secretaries of this Association be requested to afford every facility possible to the reporters of the public press, to enable them to furnish full and accurate reports of the transactions.

Dr. Atlee, of Pennsylvania, announced, on behalf of a committee of which he was the chairman, the completion of the stone ordered to be prepared as a contribution, on behalf of the Association, to the Washington monument.

Dr. Atlee appealed to the members to come forward and make up a handsome compensation for the young artist.

On motion of Dr. Sanders, of New York, it was

Resolved, That no member should speak unless his name and residence were first announced.

Dr. Hays then read the list of members and delegates, whose names had been registered since the calling of the roll on the previous day.

Dr. J. B. Biddle, of Pennsylvania, chairman of the committee of one from each State to nominate officers for the present year, reported the following as the unanimous nomination of the committee:—

President—Geo. B. Wood, M.D., of Pennsylvania.

Vice-Presidents—Wm. M. Boling, of Alabama; Daniel Tilden, of Ohio; D. Humphreys Storer, of Massachusetts; Grafton Tyler, of the District of Columbia.

Secretaries—Francis West, of Pennsylvania; R. C. Foster, of Tennessee.

Treasurer—Caspar Wister, of Pennsylvania.

Committee on Publication—Francis G. Smith, of Pennsylvania, Chairman; Francis West, of do.; Samuel L. Hollingsworth, of do.; H. F. Askew, of Delaware; Samuel Lewis, of Pennsylvania.

The committee also recommended, but not unanimously, *Nashville*, Tennessee, as the next place of holding the annual meeting.

On motion of Dr. Post, of New York, it was

Resolved, That the question of the confirmation of the officers, and of the place of meeting, be taken separately.

So much of the report as related to the nomination of officers, was then, on motion of Dr. Rogers, of Pennsylvania, adopted.

On motion of Dr. White, of New York, it was

Resolved, That a committee of three be appointed to inform the President and Vice-Presidents elect, of the choice of the Association, and to conduct them to their respective seats.

The chair appointed Drs. J. M. Smith, of New York; Blackburn, of Kentucky; Homans, of Massachusetts; Rouse, of Illinois; and Frost, of South Carolina. The officers were then conducted to their seats by the committee.

The President, on taking his seat, expressed his thanks to the Association in a neat and appropriate address for the honor conferred upon him.

On motion of Dr. Biddle, of Pennsylvania, the thanks of the Association were tendered to the retiring President, Dr. Charles A. Pope, and to Drs. Davis, Wragg, Green, and Fenner, late Vice-Presidents of the Association, to Dr. E. S. Lemoine, the retiring Secretary, and to Dr. Isaac Wood, of New York, the retiring Treasurer, for their able and faithful discharge of their respective duties.

Dr. Post, of New York, moved that the next place of meeting be the City of Washington.

Dr. Watson, of New York, moved, as an amendment, to substitute the City of Detroit for Washington.

Dr. L. A. Smith, of New Jersey, moved, as a further amendment, the substitution of Nashville for Detroit.

After some discussion, Detroit was selected as the place for the next meeting.

Dr. Foster, one of the newly elected Secretaries, then tendered his resignation, which was, on motion, accepted; and Dr. Brodie, of Michigan, was chosen to fill the vacancy.

Dr. C. Jones, of Ohio, was made a member by invitation.

The Association now proceeded to the regular order of business, which was the reception of the reports of committees, and the calling of the list was proceeded with.

22. Dr. Sanford B. Hunt, of Buffalo, New York, on the Hygrometrical State of the Atmosphere, in various Localities, and its Influence on health.

An abstract of this report was read by its author, and, on motion, the report was referred to the Committee on Publication.

23. Dr. Frank H. Hamilton, of Buffalo, New York, on the Frequency of Deformities in Fractures.

The author read an abstract of this report, and made some remarks on the objects aimed at in his investigations.

On motion, the report was referred to the Committee on Publication.

On motion of Dr. Hintzé, it was

Resolved, That a committee of one from each State be appointed by the chair to use their influence with the rail road and steam boat companies, in their respective States, to issue commutation tickets to the delegates to the American Medical Association, and their immediate families, who may design attending the meeting of the Association in May, 1856.

The following were appointed the committee:

Maine, Dr. E. R. Peaslee; New Hampshire, Dr. Josiah Crosby; Vermont, Dr. J. Perkins; Massachusetts, Dr. J. Homans; Rhode Island, Dr. Joseph Mauran; Connecticut, Dr. P. A. Jewett, *Chair'n;* New York, Dr. James P. White; Pennsylvania, Dr. Francis West; New Jersey, Dr. Lyndon A. Smith; Delaware, Dr. James W. Thompson; Maryland, Dr. F. E. B. Hintzé, *Sec.;* Dist. of Columbia, Dr. Grafton Tyler; Virginia, Dr. B. R. Welford; North Carolina, Dr. O. F. Manson; South Carolina, Dr. R. F. Michel; Georgia, Dr. Richard D. Arnold; Alabama, Dr. William M. Boling; Tennessee, Dr. J. B. Lindsley; Kentucky, Dr. C. J. Blackburn; Ohio, Dr. Daniel Tilden; Illinois, Dr. Rudolphus Rouse; Missouri, Dr. Charles A. Pope; Iowa, Dr. J. E. Sanborn; Wisconsin, Dr. J. R. Bartlett; Michigan, Dr. Zina Pitcher.

The hour of 12 M. having now arrived, a recess of one hour was taken, and the Association proceeded to the reception by the Mayor at Independence Hall.

Dr. Isaac Hays, of Philadelphia, in behalf of the Committee of Arrangements, introduced the members of the Association.

The Association reassembled at 1 P. M., the President, Dr. Wood, in the chair.

On motion of Dr. Davis, of Illinois, it was

Resolved, That the thanks of the Association be gratefully returned to the Mayor of the City of Philadelphia for the very cordial reception extended to it in Independence Hall, and also that a copy of his very eloquent address, and that of the chairman of the Committee of Arrangements, be requested for publication in the *Transactions* of the Association.

On motion of Dr. Askew, of Delaware, the rules of order were suspended for the purpose of allowing Dr. J. W. Thompson, of Delaware, to offer the following preamble and resolutions:

Whereas, That as few subjects of greater interest and importance could be presented to the consideration of the American Medical Association, now representing most of the States and Territories of the Union, than the attainment of a correct Medical Topography of each, with a history of its prevailing fevers and most successful treatment of the same, therefore be it

Resolved, That with this view and conviction, this Association appoint a Special Committee for each State and Territory represented, of —— members, whose duty it shall be to report upon its medical topography, epidemic fevers, and the most successful treatment thereof, and that the same shall continue to hold their office for three years.

Resolved, That as other States and Territories not now represented, become so by delegates duly appointed to this National Association, that similar committees shall be appointed for like purpose, and that they also shall hold their office for three years.

Resolved, That in the appointment of gentlemen of education and experience in the affairs of their own State, we have the best guarantee that the important objects we seek will be more satisfactorily accomplished, and the profession as well as the public interest will thereby be better served.

Resolved, That the committees heretofore appointed by this Association, at its session in Charleston, for a similar object, be, and the same are hereby discharged.

On motion of Dr. Askew, of Delaware, the foregoing preamble and resolutions were ordered to lie on the table and made the special order for to-morrow (Thursday) at 10 o'clock.

Dr. Earle, of New York, presented the report of the Committee on Publication, which was accepted, and, on motion, the following preamble and resolution accompanying it were adopted:

In view of the delay in publication, which is liable to be occasioned by the reference to the Committee on Publication, of reports and other papers of which abstracts alone are presented to the Association, the Committee would recommend for adoption the following resolution:

Resolved, That hereafter, beginning with the session for 1856, no report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Association, unless it be placed in the hands of the Committee on Publication on or before the first of June.

Dr. Biddle, of Pennsylvania, offered the following resolution, which was adopted:

Resolved, That the thanks of the Association are eminently due to the Committee on Publication for the faithful and highly satisfactory manner in which their arduous and responsible duties have been discharged.

Dr. Wood, of New York, presented his report as Treasurer of the Association, and also his account properly audited, which, on motion of Dr. Condie, of Pennsylvania, was accepted and referred to the Committee on Publication.

On motion of Dr. Watson, of New York, it was

Resolved, That one thousand dollars be appropriated to defray the expenses incurred by the committee in preparing the stone for the Washington monument, and that the balance necessary to make up the said sum beyond the money already collected by the committee, be drawn from the funds in the treasury prior to the opening of the present session.

Resolved, That Dr. Atlee, Chairman of the Committee, be authorized to draw upon the treasurer for the sum necessary to make up the balance.

The regular order of business, the reception of reports of Standing Committees, was then resumed.

24. Dr. M. M. Pallen, of St. Louis, Missouri, on Puerperal Convulsions.
25. Dr. G. S. Walker, of St. Louis, Missouri, on Diseases of the Prostrate Gland,
26. Dr. H. A. Johnson, of Chicago, Illinois, on the Excretions, as an Index to the Organic Changes going on in the system.

On motion of Dr. Davis, of Illinois, this committee was continued.

27. Dr. Leroy H. Anderson, of Sumpterville, Alabama, on Typhoid Fever and its Complications, as it prevails in Alabama.

28. Dr. W. H. Byford, of Evansville, Indiana, on the Pathology and Treatment of Scrofula.

An abstract of this report was read by the Secretary, and, on motion, the report was referred to the Committee on Publication.

29. Dr. N. S. Davis, of Chicago, Illinois, on the Nutritive Qualities of Milk, and the Influence produced thereon by Pregnancy and Menstruation, in the Human Female, and by Pregnancy in the Cow; and also on the Question whether there is not some mode by which the nutritive constituents of milk can be preserved in their purity and sweetness, and furnished to the inhabitants of cities in such quantities as to supersede the present defective and often unwholesome modes of supply.

This report was read, and on motion referred to the Committee on Publication, and the Committee on the subject continued.

The following preamble and resolutions were offered by Dr. W. J. C. Duhamel, of Washington, D. C., and adopted.

Whereas, The cause of humanity, and a due regard to public health, imperatively demand the speedy enactment of further and more stringent quarantine laws to prevent the spread of infectious diseases through our country; and, whereas, distinguished legislators have co-operated with the medical profession in bringing this important subject to the attention of Congress; therefore

Resolved, That, warmly approving of the bill introduced at the last session of Congress (and yet pending), to prevent sickness and mortality on shipboard, we cordially tender to the honorable Senators of the Special Committee, who so ably and earnestly advocated the measure, this expression of our sincere thanks for their unwearied exertions in behalf of the bill framed after the manner recommended by this Association, and yet indulge in the gratifying hope that their efforts in the cause of public welfare and of suffering humanity will be crowned with success.

Resolved, That the aforesaid preamble and resolutions be forwarded by the officers of the Association to the authorities at Washington.

THURSDAY, May 3d.—The Association assembled at 9 A. M., the President, Dr. Wood, of Pennsylvania, in the chair.

The minutes of the last meeting were read and approved.

The President stated that it had been usual to refer the appointment of the various standing committees to the Committee on Nominations. Whereupon, on motion of Dr. Watson, of New York, it was

Resolved, That these appointments be referred to that Committee.

The Association then proceeded to the consideration of the reports of the various committees.

30. Dr. E. B. Haskins, of Clarkesville, Tennessee, on Microscopical Investigations of Malignant Tumors.

A letter was read from the Chairman of this Committee, stating that he had not the means of carrying out the object of the Committee, and asking to be discharged, which was agreed to.

The following committees were called on, but no reports received:—

31. Dr. George R. Grant, of Memphis, Tennessee, on the Sulphate of Quinia as a Remedial Agent in the Treatment of Fevers.

32. Dr. R. R. McIllvaine, of Cincinnati, Ohio, on the Study of Pathology at the Bedside.

33. Dr. E. S. Cooper, of Peoria, Illinois, on Orthopædic Surgery.

34. Dr. Andrew F. Jeter, of Palmyra, Missouri, on the Modus Operandi of the Envenomed Secretions of Healthy Animals.

35. Dr. Samuel M. Smith, of Columbus, Ohio, on Insanity.

36. Dr. R. La Roche, of Philadelphia, Pennsylvania, on the Jaundice of Yellow Fever, in its Diagnostical and Prognostical Relations.

37. Dr. Charles Quarles Chandler, of Rocheport, Missouri, on Malignant Periodic Fevers.

38. Dr. S. B. Chase, of Portland, Maine, on Typhoid Fever in Maine.

A communication was read from Dr. Reyburn, of Mississippi, suggesting that the District, composed of Missouri, Illinois, Wisconsin, and Iowa, be divided, and also offering his resignation as Chairman of the Committee appointed to report upon the epidemics of those States, and on motion of Dr. Askew, of Delaware, it was

Resolved, That so much of said communication as refers to the division of districts be referred to the Committee on Nominations, and that the resignation of Dr. Reyburn be accepted.

39. The Committee on Plans of Organization for State and County societies, Dr. A. B. Palmer, of Michigan, was called, when the chairman stated that the Committee were not prepared to report.

40. Committee on Medical Literature, Dr. R. J. Breckenridge, of Kentucky, Chairman, was called, when a letter was read from the chairman, stating his excuses for not having his report prepared, and after considerable discussion the Committee was continued.

41. Committee on Medical Education, Dr. Wm. H. Anderson, of Alabama, Chairman, was called on, when a letter was read from the chairman, stating his reasons for not having his report ready, and asking to be continued.

After some discussion upon the general question of the propriety of continuing committees who failed to present their reports in time, on motion of Dr. J. L. Atlee, of Pennsylvania, it was

Resolved, That the further consideration of the subject be postponed in order to receive the report of the Committee on Nominations.

Dr. J. B. Biddle, Chairman of this Committee, made the following report:—

The Committee on Nominations, to which was referred the resolutions in reference to the appointment of a Committee on Medical Typography and Epidemics, report the resolutions with a recommendation that they be adopted.

They recommend the following gentlemen to compose the committee of one from each State and Territory, to be appointed in accordance with the resolutions, viz.:—

Maine, J. C. Weston, of Bangor; New Hampshire, Edmund R. Peaslee, Dartmouth College; Vermont, Joseph Perkins, of Castleton; Rhode Island, Joseph Mauran, Providence; Connecticut, Charles Hooker, New Haven; Massachusetts, George C. Shattuck, Boston; New York, Joseph M. Smith; New Jersey, Lyndon A. Smith, Newark; Pennsylvania, Jacob M. Gemmill, Huntingdon County; Delaware, James W. Thompson, Wilmington; Maryland, Peregrine Wroth, Chestertown; Georgia, John F. Posey, Savannah; Virginia, P. F. Peebles, Petersburg; District of Columbia, Thomas Miller, Washington; South Carolina, D. J. Cain, Charleston; North Carolina, O. F. Manson, ——; Kentucky, Wm. L. Sutton, Georgetown; Tennessee, E. B. Haskins, Clarkeville; Louisiana, E. D. Fenner, New Orleans; Minnesota, J. H. Murphy, St. Anthony's Falls; Ohio, G. Mendenhall, Cincinnati; Mississippi, T. J. Grafton, Rodney; Missouri, S. B. Alleyne; Michigan, J. H. Beech, Cold Water; Alabama, S. W. Chanton, Warsaw; Illinois, John Evans, Chicago; Indiana, Vierling Kersey, Milton, Wayne County; Wisconsin, Alfred L. Castleton, Delafield; Iowa, E. A. Arnold, Davenport; U. S. Navy, Thomas Dillard, Philadelphia; U. S. Army, Clement A. Finley.

The committee report that, in their opinion, it is inexpedient to make any change in the Constitution, in regard to the time and place of meeting of the Association.

The following special committees were appointed to report upon the subjects named:—

Dr. Lewis H. Steiner, of Washington, District of Columbia, on Strychnia—its chemical and toxicological properties.

Dr. Asbury Evans, of Covington, Kentucky, on Tracheotomy in Epilepsy.

Dr. J. Taylor Bradford, of Augusta, Kentucky, on the Treatment of Cholera.

Dr. Charles Q. Chandler, of Rocheport, Missouri, on Malignant Periodic Fevers.

Dr. H. A. Johnson, of Chicago, Illinois, on the Excretions as an Index to the Organic Changes in the System.

Dr. Henry J. Bigelow, of Boston, Massachusetts, on Microscopical Investigation of Malignant Tumors.

Dr. E. H. Davis, of New York, on the Statistics of Calculous Diseases, and the operations therefor.

Dr. J. S. Carpenter, on the Treatment and Curability of Reducable Hernia.

Dr. N. J. Fuller, of Maine, on the best Treatment of Cholera Infantum.

Dr. Wm. B. Page, of Philadelphia, on Injuries of the Joints.

Dr. Wilson Jewell, of Philadelphia, on the Statistics of Mortality in the United States.

Dr. J. Knight, of New Haven, Connecticut, on Endemic Tetanus.

Dr. P. H. Cabell, of Alabama, on the Native Substitutes for Cinchona, indigenous to the Southern States.

Dr. James M. Newman, of Buffalo, New York, on the Sanatory Police of Cities.

Dr. S. W. Noble, of Le Roy, Illinois, on Puerperal Fever and its Communicability.

Dr. J. M. Freer, of Chicago, Illinois, on the Progress of General and Descriptive Anatomy.

Dr. J. W. Corson, of New York, on the Causes of the Impulse of the Heart, and the agencies which influence it in Health and Disease.

Dr. D. Meredith Reese, of New York, on the Causes of Infant Mortality in large cities. the source of its increase, and the means for its diminution.

Dr. Mark Stevenson, of New York, on the Treatment best adapted to each variety of cataract, with the method of operation, place of election, time, age, &c.

Dr. Thomas Miller, of Washington, District of Columbia, on Toxicology.

Dr. E. R. Peaslee, of Hanover, New Hampshire, on Inflammation, its Pathology, and its relation to reparative process.

Dr. D. D. Thomson, of Louisville, Kentucky, on the Remedial Effects of Chloroform.

Dr. Wm. Clendennin, of Cincinnati, on Epidemic Erysipelas.

Dr. C. D. Comegys, of Cincinnati, Ohio, on the State of the Urine in Tubercular Diseases.

Dr. J. B. Coleman, of New Jersey, on the Effect of Mercury on the Living Animal Tissues.

Dr. T. G. Richardson, of Louisville, Kentucky, on the Diversity of the Venereal Poison.

Dr. J. B. Flint, of Louisville, Kentucky, on the best mode of rendering the Medical patronage of the national government tributary to the honor and improvement of the profession.

Dr. J. C. Hutchison, of Brooklyn, New York, on the Anatomy and Histology of the Cervix Uteri.

Dr. M. M. Latta, of Goshen, Indiana, on whether there are any means by which the Growth of the Fœtus in Utero may be controlled without injury to the Mother.

Committee to procure Memorials of the Eminent and worthy Dead—Dr. P. A. Jewett, of Connecticut; Dr. Thomas F. Betton, of Pennsylvania; Dr. C. J.

Blackburn, of Kentucky; Dr. Wm. M. Boling, of Alabama; Zina Pitcher, of Michigan.

Committee on Plans of Organization of State and County Societies.—Dr. A. B. Palmer, of Michigan; Dr. N. B. Ives, of Connecticut: Dr. E. B. Haskins, of Tennessee; Dr. Charles Woodward, of Ohio; Dr. Josiah Crosby, of New Hampshire.

STANDING COMMITTEES.—*Committee on Arrangements.*—Dr. Zina Pitcher, of Detroit; Dr. Moses Gunn, do.; Dr. G. B. Russell, do.; Dr. A. S. Leland, Dr. Morse Stewart, Dr. Peter Klein, Dr. J. A. Brown.

Committee on Prize Essays.—Dr. A. B. Palmer, of Michigan; Dr. Samuel Denton, Dr. A. R. Terry, Dr. Adam Sager, Dr. S. H. Douglass, Dr. Corodon La Ford, Dr. E. Andrews.

Committee on Medical Literature.—Dr. P. C. Gaillard, of South Carolina; Dr. N. P. Monroe, of Maine: Dr. James Couper, of Delaware; Dr. R. Hills, of Ohio: Dr. A. Coffin, of South Carolina.

Committee on Medical Education.—Dr. J. Berrien Lindsley, of Tennessee; Dr. J. B. Flint, of Kentucky; Dr. P. H. Cabell, of Alabama; Dr. George Hayward, of Massachusetts; Dr. E. B. Smith, of Missouri.

On motion, the report of the Committee was adopted.

The subject of the report of the Committee on Medical Education was taken up, and after considerable discussion Dr. Lindsley, the chairman of the newly-appointed committee on the subject, asked leave to resign, and that Dr. Anderson, of Alabama, chairman of the former committee, be appointed in his place.

Whereupon Dr. Lindsley's resignation was accepted, and Dr. Anderson appointed in his place.

A letter from Dr. W. Hooker, Chairman of the Committee on the Epidemics of New England and New York, was read, in which he points out the defects of the present organization of the Committee on Epidemics, and asks to be discharged from the further consideration of the subject.

On motion of Dr. Hays, the letter was referred to the Committee on Nominations.

Dr. F. H. Hamilton, of New York, asked and obtained leave to make some remarks on fracture of the clavicle, supplementary to his report made yesterday.

The special order of the day, the resolutions in reference to the appointment of Committees on Medical Topography, offered by Dr. Thompson, of Delaware, was taken up.

After some remarks by Dr. Thompson, advocating their adoption, Dr. Askew, of Delaware, offered the following additional resolution, which was accepted by Dr. Thompson:—

Resolved, That all reports on the Medical Topography and prevailing diseases of States, shall, to entitle them to be received by this Association and published in the proceedings, be first approved by the Medical Societies of the State or Territory where such Societies exist, and to which State or Territory such report refers.

The preamble and resolutions presented yesterday by Dr. Thompson, were then adopted.

Dr. J. G. Orton, of Binghamton, New York, read a series of resolutions which he had prepared in reference to the same subject. They were as follows:—

Resolved, That each County Medical Society (or in parts of the country where such societies have not been established, any duly organized medical association), be invited to amend their constitutions by attaching thereto the following article : "It shall be the duty of each member of this Society to keep a faithful record of the diseases which may fall under his observation during each month, according to the classification adopted by this Convention in May, 1847, stating the age and sex, occupation, and nativity of the patients, the average duration of the disease, and, finally, their recovery or death, and to report the same in writing to the Secretary on or before the first day of February of each year, who shall transmit a digest thereof to the State Medical Society, and also to the appropriate committee appointed by the American Medical Association for its reception."

Resolved, That each incorporated Hospital, Infirmary, and Asylum, be invited to furnish a copy of their annual reports, for the use of the committee of their respective States.

Resolved, That the State Committee appointed by this Association to report upon the prevailing diseases of their respective localities, shall receive and arrange a digest of the reports transmitted to them by the Secretaries of the various county societies, and report the same at the annual meeting of this Association.

Resolved, That the first day of January be the time fixed at which the object of these resolutions shall be carried into effect, and that the several county societies and associations be requested to amend their constitutions as heretofore recommended, at as early a date as practicable, and to report to the State Committee their willingness or unwillingness to acquiesce in the request of this Association.

On motion, the above resolutions were referred to the Committee on Nominations.

The reports of Committees were again proceeded with.

The President stated that Dr. D. J. Cain, appointed to report on the epidemics of South Carolina, Florida, Georgia, and Alabama, was confined at home by sickness.

The Committee on the epidemics of Tennessee and Kentucky, not being ready to report, was continued.

A letter was read from Dr. Fenner, appointed to report on the epidemics of Louisiana, Mississippi, Arkansas, and Texas, stating that his report was in progress.

On motion, the committee was continued.

Dr. D. Francis Condie, to whom was referred the subject of tubercular disease, stated that he had been engaged for a period of three years in examining and arranging a report on this subject. The report will occupy at least five hundred pages, and one reason which has caused it to swell to so great an extent, is, that he found it necessary to contradict a large number of statements on the subject. He hoped that the Association would excuse him in not being quite ready with the report. He had prepared a digest of its contents, which in fact is merely an index to the whole, and would not of itself repay for the time used in reading it. He expressed a desire that the Association would excuse him.

A motion was made that Dr. Condie be permitted to adopt such course as may be most agreeable to himself in regard to the publication of his report, free from any obligation he may consider himself under to the Association. The motion was agreed to.

The Committee on the Constitutional and Local Treatment of Carcinoma, Dr. Daniel Brainard, of Chicago, Illinois, not being ready to report, was continued.

The Committee on the Applications of Nitrate of Silver to the Throat, Dr. Horace Green, of New York, chairman, stated that a longer time was required in order to collect the materials necessary for a report. On motion, the committee was continued.

The Committee on Dysentery, Dr. Henry Taylor, of Mt. Clemens, Michigan, chairman, presented, through Dr. Beech, an abstract of the report which was read, and, on motion, the report was referred to the Committee on Publication.

The Committee on Hydrophobia and the Connection of the Season of the Year with its Prevalence, Dr. T. W. Blatchford, of New York, chairman, presented a partial report which was read, and, on motion of Dr. Smith, of New York, the committee was continued.

Committee to inquire into the Causes which obstruct the formation and establishment of our National Medical Literature, Dr. S. D. Gross, of Kentucky, Chairman.

A letter was read from the Committee stating the reasons for the report not being ready, and, on motion, the Committee was continued.

Committee to report the best means of preventing the introduction of Disease by Emigrants into our country, Dr. S. H. Dickson, of South Carolina, Chairman, were called upon, when a letter, written soon after the adjournment of the last meeting of the Association, declining the appointment, was read.

The hour for recess having arrived, adjourned.

The Association reassembled at 1 P. M., the President, Dr. Wood, in the Chair, and the regular order of business, the calling for reports from Committees, was proceeded with.

Dr. R. D. Mussey, of Ohio, the Committee to examine into, and report upon, the effects of Alcoholic Liquors upon the system in health and disease, read his report, which was, on motion, referred to the Committee of Publication.

Dr. E. S. Cooper, of Peoria, Illinois, on Orthopædic Surgery. No report.

Dr. Andrew F. Jeter, of Palmyra, Missouri, on the Modus Operandi of the Envenomed Secretions of Healthy Animals. No report.

Dr. Samuel M. Smith, of Columbus, Ohio, on Insanity.

By request of Dr. Smith, this Committee was continued.

Dr. R. La Roche, of Philadelphia, Pennsylvania, on the Jaundice of Yellow Fever, in its Diagnostical and Prognostical Relations.

This Committee was not ready to report, and was continued.

Dr. Charles Quarles Chandler, of Rocheport, Missouri, on Malignant Periodic Fevers. No report.

Dr. S. B. Chase, of Portland, Maine, on Typhoid Fever in Maine, No report.

An motion of Dr. Thomas, of Maryland, the resolution referring the report on Medical Literature to the Committee on Publication was reconsidered, when, on motion of Dr. Gibson, of Virginia, the further consideration of this subject was postponed until to-morrow.

On motion of Dr. Jewett, of Connecticut, it was

Resolved, That a Committee of one from each State be appointed to report upon a uniform system of marriages, births, and deaths; and the resolution was referred to the Committee on Nominations, to report the names of the Committee.

The Association then adjourned.

On Friday, May 4, the Association met at 9 A. M., the President, Dr. Wood, of Philadelphia, in the chair,

The minutes of the last meeting were read and approved.

On motion of Dr. Lemoine, it was resolved that the nomination of a chairman of the Committee on the Epidemics of Missouri, be referred back to the Committee on Nominations.

Dr. Atlee offered a resolution that Dr. Breckenridge's report on Medical Literature be referred to a special Committee, to be read, and if approved by said Committee, then that it be referred to the Committee on Publication. The motion was lost.

A motion was then made and adopted, that the Committee on Medical Literature be continued, to report at the next meeting of the Association.

Dr. Hayward, of Boston, offered the following, which was adopted unanimously:—

Resolved, That the thanks of this Association be presented to his Honor the Mayor, and the other officers of the city government, and to the citizens and physicians of the city of Philadelphia, for their kind and continued attentions, and munificent hospitality to the members of this Association during its present session.

Dr. J. L. Atlee, of Pennsylvania, presented and read a report, on behalf of the Committee appointed at the last annual meeting of the Association, and to which was referred the Essay of Dr. Phelps, of New York, on "Religion as an Element in Medicine, or the Duties and Obligations of the Profession," and also the communication of Dr. R. S. Bailey, of South Carolina, on the same subject, with instructions to consider and report on the expediency of publishing the same. The report was accompanied with the following resolution:—

Resolved, That it is inexpedient to publish, in our *Transactions*, the Essay of Dr. Phelps.

The Committee state that, having expressed their sentiments on the subject, they beg to be discharged from the further consideration of Dr. Bailey's paper.

After a brief discussion, the previous question was demanded and sustained, and the report was accepted, the accompanying resolution adopted, and the request to be discharged granted.

Dr. Charles Hooker, of Connecticut, offered the following amendment to the Constitution, which, under the rules, lies over until the next annual meeting of the Association.

"Any permanent member who shall not pay for the published *Transactions* for three successive years, shall be considered as withdrawn.

Dr. N. S. Davis, of Chicago, Illinois, submitted the following preamble and resolutions:—

Whereas, The present mode of conducting the annual meetings of the Association affords but little opportunity for the discussion of strictly scientific questions and papers, and

Whereas, This has been regarded as a serious defect in the operation of our organization, impairing its scientific character; therefore, *Resolved*, That the daily sessions of the Association during each annual meeting be divided into two parts—the first to terminate at an hour not later than 12½ o'clock P. M., each day, and to be devoted, as heretofore, to the general business of the Association—the second, consisting of all the time which it is deemed advisable to remain in session each day, after 1½ o'clock P. M., to take the character of a scientific session, and to be devoted exclusively to the discussion of questions relating to the science and art of medicine.

Resolved, That the Association, in its capacity of a scientific session, having no power to act on any subject except of a scientific character, may continue in session, whenever thought advisable, a longer period than in its most general capacity.

Resolved, That the foregoing preamble and resolutions be referred to the Committee on Arrangements with instructions to report on the same at the commencement of the next annual session.

Dr. C. G. Comegys, of Ohio, offered the following preamble and resolutions, which were, on motion, referred to the Committee on Nominations:—

Whereas, The American Medical Association, though devoting itself ardently to the interest of medical science, is unable to accomplish all its aims for the promotion of the usefulness of the profession in society without the aid of legislation, therefore

Resolved, That the members of the medical profession throughout the Union be urgently requested to take immediate and concerted action for petitioning their several legislative bodies to establish offices for the collection of vital statistics.

Resolved, That for the purpose of securing an ample number of petitioners for this object, this Association suggests that every member of the profession shall endeavor to secure the name of his personal friends.

Resolved, That a copy of the above resolutions be transmitted at once to the several State societies.

Dr. A. J. Semmes, of Washington, D. C., offered the following, which was adopted:—

Resolved, That a Committee of three be appointed to report to the Association at its next annual meeting what measures should be adopted to remedy the evils existing in the present methods of holding coroners' inquests, by incompetent persons, by which the lives and liberties of the innocent may be jeoparded, and the ends of justice frustrated.

The President appointed Dr. A. J. Semmes, of Washington; Grafton Tyler, of D. C.; and Dr. D. F. Condie, of Pennsylvania, that Committee.

Dr. F. C. Stewart, of New York city, offered the following resolutions, which were unanimously adopted:—

Resolved, That the thanks of the American Medical Association be, and they are hereby tendered, to the Committee of Arrangements for the liberal and cordial reception extended to its members during the present session.

Resolved, That a similar acknowledgment is eminently due, and also unanimously extended, to the officers, trustees, and managers of the several public and private institutions of the city and vicinity, which have been thrown open to the inspection of the members of the Association, the visitation of which has been a source of unmingled satisfaction, and the management of which manifests the faithful and zealous care of those to whose guardianship they have been intrusted.

Dr. Biddle, Chairman of the Committee on Nominations, to whom was referred the resolution of Dr. Jewett, "that a Committee of one from each State be appointed by this Association to report upon a uniform system of Registration of Marriages, Births, and Deaths," made a report, recommending the adoption of the resolution, and presenting the following list of names to constitute said Committee:—

Dr. M. W. Wilson, of Hartford, Connecticut, *Chairman;* Dr. G. S. Palmer, of Gardiner, Maine; Dr. Silas Cumming, Fitz-William, New Hampshire; Dr. G. T. Elliott, Woodstock, Vermont; Dr. Edward Jarvis, Dorchester, Massachusetts; Dr. Joseph Mauran, Providence, Rhode Island; Dr. Jno H. Griscom, New York, New York; Dr. Henry Carpenter, Lancaster, Pennsylvania; Dr. O. H. Taylor, Camden, New Jersey; Dr. Lewis P. Bush, Wilmington, Delaware; Dr. A. Snowden Piggott, Baltimore, Maryland; Dr. David H. Tucker, Richmond, Virginia; Dr. N. J. Pittman, of Tarboro, North Carolina; Dr. Harvey Lindsley, Washington, District of Columbia; Dr. Jno. L. Dawson, Charleston, South Carolina; Dr. R. D. Arnold, Savannah, Georgia; Dr. A. Lopez, Mobile, Alabama; Dr. James Jones, New Orleans, Louisiana; Dr. R. C. Foster, Nashville, Tennessee; Dr. C. J. Blackburn, Covington, Kentucky; Dr. Jno. Dowson, Columbus, Ohio; Dr. Edmund Murphy, New Harmony, Indiana; Dr. N. D. Stebbins, Detroit, Michigan; Dr. J. V. Z. Blaney, Chicago, Illinois; Dr. Geo. D. Wilbur, Mineral Point, Wisconsin; Dr. Wm. McPheeters, St. Louis, Missouri; Dr. J. D. Elbert, Keosaqua, Iowa; Dr. Jno. H. Murphy, Falls of St. Anthony, Minnesota.

Mississippi and Arkansas were left blank.

The Committee recommended the addition of the following Special Committee:—

Dr. M. M. Latta, of Goshen, Indiana, on "Whether there are any Means by which the Growth of the Fœtus in Utero may be controlled without Injury to Mother or Child."

Dr. Thomas Miller, of Washington, District of Columbia, on Toxicology.

Dr. E. R. Peaslee, of Hanover, New Hampshire, on Inflammation—its Pathology, and its Relation to the Reparative Process.

Dr. D. D. Thomson, of Louisville, Kentucky, on the Remedial Effects of Chloroform.

Dr. Wm. Clendennin, of Cincinnati, Ohio, on Epidemic Erysipelas.

Dr. C. G. Comegys, of Cincinnati, Ohio, on the State of the Urine in Tubercular Disease..

The report of the Committee was adopted.

Dr. J. L. Atlee, of Pennsylvania, offered the following resolutions, which were adopted:—

Resolved, That to secure efficient teaching in medical schools, where the prime object is to enforce practical precepts, a large degree of union and harmony must exist among the teachers, and confidence be reposed in them by their pupils.

Resolved, That any such unnatural union as the mingling of an exclusive system, such as homœopathy, with scientific medicine in a school, setting aside all questions of its untruthfulness, cannot fail by the destruction of union and confidence and the production of confusion and disorder, unsettling and distracting the mind of the learners, to so far impair the usefulness of teaching as to render every school adopting such a policy unworthy the support of the profession.

Dr. A. B. Palmer, of the University of Michigan, seconded the resolutions.

Dr. Foster, of Tennessee, offered the following resolution, which, on motion, was laid on the table:—

Resolved, That the State Medical Societies be requested to hold their annual meetings just one month before the meeting of the American Medical Association.

Dr. Clendennin, of Cincinnati, Ohio, offered the following:—

Resolved, That no State or local society shall hereafter be entitled to representation in this Association that has not adopted its code of ethics.

Resolved, That no State or local society that has intentionally violated or disregarded any article or clause in the code of ethics, shall longer be entitled to representation in this body.

Dr. L. A. Smith offered a resolution to lay these resolutions on the table, which, after discussion, was lost.

Dr. Miltenberger, of Maryland, offered as an amendment the following preamble and resolutions, to be appended to the resolutions of Dr. Clendennin:—

Whereas, It has been brought to the notice of the American Medical Association that the State Medical Society of Ohio violated at their last meeting one of the articles of its code of ethics. Therefore

Resolved, That the Secretary of this Association be directed to inform the officers of that society, that unless such action be rescinded, they cannot hereafter be represented in this Association.

Dr. J. L. Atlee, of Pennsylvania, offered as amendment to the foregoing preamble the addition thereto of the particular obnoxious action alluded to. The amendment was accepted by Dr. Miltenberger, and the resolutions of Dr. Clendennin, with the preamble and resolutions of Miltenberger, as amended by Dr. Atlee, were adopted. The resolutions as adopted are as follows:—

Resolved, That no State or local society shall be hereafter entitled to a representation in this Association, which has not adopted the code of ethics.

Resolved, That no State or local society which has violated or discarded any article or clause in the code of ethics, shall longer be entitled to a representation in this body.

Whereas, It has been brought to the notice of the American Medical Association that the State Medical Society of Ohio violated, at their last annual meeting, one of the articles of its code of ethics by adopting a resolution, 'That it is not derogatory to medical dignity or inconsistent with medical honor for medical gentlemen to take out a patent-right for surgical or medical instruments.' Therefore,

Resolved, That the Secretary of this Association be directed to inform the officers of the Medical Society of Ohio, that unless such action be rescinded, they cannot hereafter be represented in this Association.

Dr. A. Stille, of Pennsylvania, offered the following resolutions, which were adopted:—

Resolved, That a special committee of five be appointed to report at the next meeting of the Association upon the following question:—

Might not the present system of repeating the same lectures to the same classes during two successive terms be usefully modified by extending the lectures of each chair over two sessions, so as to embrace systematic and complete discussion of each of the following subjects?:—

1. Special, Regional, and General Anatomy, including illustrative references to Morbid Anatomy.
2. Inorganic, Organic, and Pharmaceutical Chemistry and Toxicology.
3. General and Human Physiology, Hygiene, Medical Jurisprudence.
4. Medical Botany, Materia Medica, Therapeutics.
5. General Pathology, Morbid Anatomy (systematic), Practice of Medicine.
6. General Surgical Pathology, or Institutes of Surgery, Mechanical Operative, and Medicinal Surgery.
7. Obstetrics, Diseases of Women, Diseases of Children.
8. Hospital Clinical Medicine and Surgery.

Resolved, That the committee, at an early day, address the several medical colleges in regard to the proposed plan of instruction, requesting from them an official expression of opinion upon its merits and feasibility.

On motion of Dr. Pitcher, it was

Resolved, That the committee under the above resolutions be appointed by the President, and that he be allowed to do this after the final adjournment of the Association.

The President has appointed the following committee under the preceding resolutions:—

Dr. Alfred Stille, of Philadelphia, chairman; Professor Samuel Jackson, of Philadelphia; Dr. John Bell, of Philadelphia; Dr. John Watson, of New York; and Dr. A. L. Cabell, of Charlottesville, Virginia.

Dr. Levi D. Scheets, of Ohio, offered the following alteration to the Constitution, which, under rule, lies over until the next meeting:—

Whereas, It has been found necessary to devise some means of elevating the standard of education, both professional and general, among medical men, by those who are best acquainted with the sad and lamentable deficiency which prevails in this respect among a large mass of the profession, and particularly in the Western States. And,

Whereas, Efforts to this effect at home have been opposed on the ground that more was exacted by such as took an active part in the matter than is required by the "American Medical Association." And,

Whereas, It is believed that the National Society can exert a beneficial influence over the whole country. Therefore,

Resolved, That the Constitution of the Association be so amended as to require all delegates, before being allowed a seat in said Association, to satisfy the proper authorities that the societies which they represent, require *graduation* as the *sine quâ non* to membership therein, and that no person can become a permanent member, a member by invitation, or can be received as a delegate from any other body, unless he be a graduate of some respectable medical school.

Resolved, That the editors of the various medical journals of the United States be requested to publish the foregoing, so that an interest may be awakened upon this subject, and that societies may be prepared to comply with the above requisitions in case they meet the approval of this Association.

Dr. Corson, of New York, asked and obtained leave to read a brief abstract of a paper "On the influence of Lead upon the Heart's Action, and the Importance of the Study of the Cardiac Impulse in Disease generally, founded upon a Series of Observations."

On motion, it was referred to a special committee of three with instructions, if they approve of it, to transmit it to the Committee of Publication for insertion in the *Transactions*.

Drs. Charles D. Davis, Isaac Wood, and F. Campbell Stewart, of New York, were appointed the committee.

Dr. Thomas, of Baltimore, read a paper on a simple and easy method of applying nitrate of silver to the air-passages, contrived and employed by the author's brother, Dr. John Chew Thomas, about six years since. It consists in applying a stick of caustic lightly to a fine grindstone or emery wheel made to revolve with great velocity. The caustic is thus thrown off in an impalpable powder which may be inhaled by the patient sitting before the stone.

On motion of Dr. Emerson, the paper was referred to a committee of three with instructions, if they deem it worthy of insertion in the *Transactions*, to transmit it to the Committee on Publication.

Drs. Emerson, of Philadelphia, Miltenberger, of Maryland, and R. P. Thomas, of Philadelphia, were appointed that committee.

Dr. Atlee offered the following resolution, which was adopted:—

Resolved, That the subject of the contagiousness or non-contagiousness of cholera be especially recommended to the attention of the State Committee on Epidemics, State Topography, etc.

On motion of Dr. Hintzé, of Maryland, it was

Resolved, That the thanks of the Association be presented to the several railroad and steamboat companies which have courteously issued commutation tickets to the members of the Association for the present meeting.

The proposition offered at the last annual meeting by Dr. S. D. Gross, of Kentucky, to amend that part of the Constitution which relates to the election of officers, so that the election shall take place immediately before the adjournment of each meeting, instead of immediately after its commencement, was called up, and, on motion, indefinitely postponed.

The proposition offered at the last annual meeting by Dr. F. A. Ramsay, of Tennessee, that the Constitution be so amended as to dispense with the Nominating Committee, and the duties of such committee, was, on motion, rejected.

Dr. N. B. Ives, of Connecticut, proposed the following amendment to the Constitution, to be appended to the end of the second article :—

"The Association shall, at all times, have power to punish any of its members by reprimands, suspension, or expulsion, upon a three-fourths vote of the members present at any meeting, at which not less than one hundred are in attendance."

Dr. Dorset, of Virginia, offered the following amendments to the Constitution :—

Resolved, That with a view of adding dignity and influence to our body, and conveying a more adequate idea of its national representative character, the title "National Medical Congress" be substituted for that of "American Medical Association," and that we hold our sessions at least once in three years in Washington, D. C.

Dr. A. M. Pollock offered the following resolution :—

Resolved, That no organization or institution, entitled to representation in this Association, shall be considered in good standing which has not adopted its code of ethics.

Dr. Lemoine, of Missouri, called up the amendment to the Constitution offered last year by Dr. Byford, to change the name of the "Committees on Epidemics" to "Committees on Prevailing Diseases."

On motion, the proposed amendment was rejected.

There being no further business, the Association then, on motion, adjourned *sine die.—Condensed from Med. News.*

COMMUNICATIONS.

Atmospheric and Mortuary Observations in New York, comprising the first half year of 1855. By J. P. Loines, M.D., of New York.*

It is presumed that the patient comparison of the different columns in the accompanying table will enable any physician to draw instructive conclusions. The necessary explanations of the different headings, &c., will be given, and incidentally a few apparently obvious deductions will be exhibited. The weeks end with Friday, about 24

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* From papers read before the Society of *Statistical Medicine* from January to June, 1855.

Weeks.	1855. 7th Ward, New York. Remarks.	WEATHER MEAN OUT-DOOR.													In-door at 70°.		AGGREGATE MORTALITY AND BURIALS.	Classification.													
		Temperature.	Evaporation below.	Dew-point below.	Daily range.	Inches Rain and melted Snow.	N. W. & S. W. winds.	E. & N. E. winds.	S. & S. E. winds.	Mostly clear.	Mostly cloudy.	Grains of Vapor in a cubic foot of air.	Additional weight required to saturate.	Mean humidity, saturation being 100.	Mean humidity, healthiest weather in the year being 100.	Mean Barometer.	Total No. Deaths.	Brain & Nerves.	Lungs & Throat.	Digest. System.	Eruptive Fevers	Other Fevers.	Adults.	Children.	Under two years.	American.	Irish, &c.	German, &c.	Ward's Island Hosp.	Other Charities.	Catholic Cemeter's.	Paupers' Cemeter's.
1	Damp, for winter	35°	1½°	3½°	7½°	0	2	5	0	2½	4½	2·30	·50	80	46	30·40	479	113	131	75	27	16	212	267	197	276	111	50	26	37	173	95
2	" " "	37¼	2	4½	7	¼	3½	3⅛	----	2½	4½	2·37	·63	79	47	30·40	413	90	120	72	26	19	148	265	179	266	75	55	55	23	144	93
3	Drier	32	2¾	6½	8	0	4¾	2¼	----	3¼	3¾	1·99	·56	77	40	30·00	467	82	150	67	39	14	171	296	214	300	99	51	69	36	172	116
4	"	30	3	7	11¼	3	4	3	----	3	4	1·89	·47	75	37	29·69	437	102	144	61	46	13	165	272	198	308	75	39	50	24	157	82
5	"	27	4½	10½	9	1¼	3¾	3¼	----	3¾	3¼	1·46	·70	72	29	30·00	511	108	160	79	49	24	182	329	230	348	78	64	60	41	179	134
6	Driest	15	5	11½	11	2	2	5	----	1½	5½	·961	·49	66	19	34·00	485	95	164	66	39	22	159	326	233	335	78	54	65	25	163	163
7	Dry	26	3½	8	7½	3	4	3	----	3¼	3¾	1·54	·55	73	31	30·21	550	108	177	98	35	29	203	347	245	357	109	65	84	36	194	176
8	Drier	29	6	14	11	¼	6½	½	----	5¼	1¾	1·40	80	61	28	30·18	521	101	185	89	31	27	198	323	239	362	79	57	51	42	109	117
9	Very dry	21½	6¾	16	15	0	7	0	----	6½	½	1·00	·70	59	20	30·21	532	115	191	67	43	34	229	303	215	342	99	78	57	43	166	119
10	Damp, for winter	39	5½	13	14	0	6½	¼	----	5	2	2·04	1·11	64	41	30·00	491	113	131	75	30	44	189	302	222	336	77	54	42	32	169	104
11	Damper	34	3	7	10	1-7	5	1½	½	2½	4½	2·13	·58	78	42	29·93	515	102	169	68	30	44	190	325	228	336	104	47	46	40	188	125
12	Drier	35½	5	11½	11	0	5⅝	1⅛	0	5¼	1¼	1·91	1·02	63	39	30·00	456	95	158	66	30	29	177	279	185	330	64	41	37	23	169	117
13	"	35	6	14	18	0	6½	½	----	6	1	1·71	1·09	61	38	29·82	493	88	156	74	42	30	300	293	212	324	83	58	49	17	171	100
14	Damper	42	7	16¼	20	1	5½	1	½	5	2	2·00	1·49	57	44	29·98	441	115	128	53	26	16	147	294	215	317	68	42	29	25	154	85
15	"	50	5	11½	16	¼	3¼	2	1¼	3½	3½	3·06	1·17	74	60	30·15	479	111	145	62	35	22	174	305	196	329	84	49	47	26	167	90
16	"	52	4	9½	15	¼	4½	2½	0	3	4	3·09	1·94	80	61	29.91	479	73	152	73	59	20	174	305	191	331	88	46	35	40	168	92
17	"	53	6	14	10	1-25	3½	0	3½	4	3	3 16	1 94	61	63	30·00	399	87	131	50	45	20	149	250	166	280	60	31	23	34	147	65
18	Drier	52½	6	14	8	1-20	3	1	3	4	3	3·03	1·80	61	61	29.98	438	85	135	79	37	19	177	261	197	320	81	38	37	50	154	75
19	"	55½	7	16½	18	1¼	4¾	2	¼	4½	2½	3·05	2·29	56	61	29·99	431	84	133	80	44	23	155	276	175	311	70	40	18	38	128	73
20	Sultry	67	11	25½	21	¼	6	½	¼	5	2	3·23	4·03	47	64	30·15	457	92	155	78	49	14	190	267	191	316	90	28	18	40	173	91
21	Damper	65	8	18½	16	2¼	4	1	2	3½	3½	3 92	3 51	51	78	29·90	394	91	99	61	41	24	136	258	165	281	80	26	12	37	160	51
22	Drier	65	11¼	26	15	0	5	0	2	5½	1½	2·99	4·24	41	60	30·18	399	77	114	81	29	20	147	252	180	291	70	27	22	28	145	65
23	Model Week. Healthiest weather in the year	64	5½	13	8	2½	3	0	4	3	4	4·56	2·48	65	92	30·08	350	71	99	61	30	27	175	231	142	200	54	30	17	31	119	73
24	Fine	66	8	18½	14	½	6		1	5½	1½	4 04	3.38	54	81	29 98	353	77	99	52	35	9	107	246	160	200	57	31	22	18	111	58
25	Very damp	66½	6	14	13	½	1	1½	4½	2½	4½	4·80	3·	63	96	29·84	322	69	70	50	41	13	99	223	163	231	62	20	16	21	128	61

hours before the termination of the official weeks of the City Inspector This has enabled us to make some valuable comparisons of the weather and consequent mortality; since, in the weeks having extreme dryness or moisture, or low or high temperatures prevailing, the influence is often so direct in this city, that the mortality for the week instant is immediately increased, while on the contrary, we find temperate Spring and Autumn weather influencing chiefly the mortality in the few succeeding weeks. These conclusions are clearly shown in the table. For example, compare the different columns of the cold 6th and 7th weeks with each other, and also in the same manner those of the mild 20, 21, 22, 23 and 24th weeks. The 2nd column was collated with the 13th and 16th, to show a relatively dry or damp day as affecting the health of those breathing our atmosphere both in and out of doors. The 3rd column shows, as nearly as possible, the true mean temperature as derived from five daily observations of the maximum and minimum thermometers. This is thought to be a better method of obtaining the true mean, than that from *one* daily observation of the extremes, which only serves to give us the true mean of the temperate seasons and equinoctial days of the year.

In the 8th, 9th and 10th columns, the winds, showing by their direction the same average weather, are classed together. In the 14th column, the additional weight of vapor required to saturate a cubic foot of air at the mean out-door temperature is given in grains. The 15th column shows the proportion per cent. of the 13th, to the sum of the 13th and 14th; or in other words, the ratio of the mean amount of vapor contained in a cubic foot of air, to the amount necessary for saturation at the mean temperature of that week, and is the expression generally used to indicate relative moisture; but it cannot throw much light upon the causation of disease at different seasons, for the reason that it relates merely to out-door temperature. The 16th column, believed to be a new feature in tables of this kind, will usually afford the information desired. To elucidate this, it is necessary, first, to give a description of what might be called model weather, viz., temperature 65° to 70°, dew-point 15° to 20° below; barometer, 30 in.; weight of vapor in cubic foot of air, 4½ to 5 grains; additional weight required to saturate, from 3 to 3½ grains; winds moderate, mostly westerly. A similar combination prevailed with the greater part of the weather for May and June, and during that time exercise in the open air, or in well-ventilated in-door apartments, or a sudden change from one to the other, would never cause disease; but, on the contrary, materially aid in its removal. On the other hand, let us cite the weather of the 6th week of 1855, which caused more disease than any other of this year.

For many hours of this week, the temperature was below 10°, and each cubic foot of out-door air only contained one half grain of vapor. This dry air was taken into our rooms, there heated to 70° or upwards, and thus its chemical affinity for moisture was increased more than 16 times —that is to say, the in-door air was 16 times drier than the out-door. This additional 8 grains of vapor the in-door air demanded, and preyed upon that contained in all the objects over which it circulated, our lungs and skin included, thereby causing disease *directly* to those who had vainly sought a tropical climate in heated and arid parlors, halls, or bed-rooms; and the alternate changes to those passing in and out of doors, of an eight-fold increase or decrease of temperature, and sixteen-fold dryness or moisture, were more than India-rubber skin, or mouth, nostrils, and throat, or any Ericsson wire gauze combination could well protect us against: whence congested mucous membranes, cracked and fissured skin, &c.

The 16th column may be made more useful by varying its heading thus: "the proportion per cent. of the natural moisture of the air to that of spring or summer in fine weather at 70°." A glance along the column will show by the highest numbers the healthiest weeks, and by the lowest, the most unhealthy. Thus 19 and 96 are the extremes.

The 28th column includes also the deaths of the natives of England, and the 29th those of the immigrants from Central Europe, in addition to Germany. A few words are necessary to show the reliable character of the returns of mortality. There is, probably, no other city or section of country in the world, containing a population of 800,000, where the returns of deaths are more carefully made. We are sure that all the deaths in the city at large, and in the institutions and islands connected, are reported punctually each week to Friday night, as also the date and locality of their interment. Thus, the reader may be assured that every item and figure is correct in the accompanying table, with the exception of those errors occasioned by careless or ignorant physicians, in reporting causes of deaths. That these form but a small portion, can be shown from the fact of the general consistency of our reports from any one disease found in monthly or yearly comparisons with tables elsewhere; besides which, about one fifth die in public institutions, treated by physicians whom we know are perfectly competent to report the causes of death.

Although the foregoing table, by its character and origination in a statistical association, mainly devoted to the systematic record of facts, mostly leaves the reader to form his own opinions upon it without a bias, yet a few additional leading arguments and conclusions may not be thought supererogatory.

1st. In our finest spring and autumn weather, partially described as that which the model week should be, with the observance of proper hygienic rules, and in good constitutions, *no natural sporadic causes of disease exist,* and the *most favorable juvantiæ for the sick are afforded.* 2nd. The low temperature of much of our winter weather is a *direct cause of disease.* Although the surface of the body can be protected, *nothing* can long *guard the air passages or the general system,* against exposure to extreme cold, or sudden changes from high to low temperatures, or vice versa. 3rd. The extremely small quantity of water contained in the air, in low temperatures, cannot often supply the necessary amount to the system either in or out of doors; but on the contrary, in a dry cold air, the inevitable rapidity of the currents *carries off the moisture from the mucous surfaces, &c.,* much faster than in summer, since the relative affinity 'cæteris paribus' of a still atmosphere for vapor is about the same out doors in any season. The preceding paragraph alludes to the *same cause of disease* as was noticed on a former page in describing the extremes of out-door air below 10°, and the same heated to upwards of 70°, when the exceedingly difficult matter of a sufficient supply of artificial moisture is not attained. 4th. For the *prevention or removal of disease* in our abodes, we must supply the proper equable moisture as well as warmth, and ventilation of a fine out-door tropical climate; to the completion of which end there can be no doubt that art might nearly approximate. 5th. More moisture than 4 or 5 grains to a cubic foot, or a much higher temperature than 70° is *unfavorable to health.* This, of course, is not established by the table, but it will probably be demonstrated in the next one published of the kind.

In conclusion, it is only necessary to state that the electrical condition of the air has been mostly *positive;* but the facts observed in its connection allow no definite inferences upon the subject in question. It is hoped that these few remarks will elicit further discussion upon these topics.

Abstract of the Report of the Committee of the Academy of Medicine on Catheterization of the Air-Passages.—This committee was appointed to report upon a paper read before the Academy of Medicine, by DR. HORACE GREEN, "*On the Employment of Injections into the Bronchial Tubes, and into Tubercular Cavities of the Lungs.*" The committee consisted of Prof. WILLARD PARKER, *Chairman,* Drs. ALEX. H. STEVENS, ISAAC WOOD, J. ANDERSON, J. T. METCALFE, B.

F. Barker, and John O. Stone. The following is an abstract of the majority report.

The committee met on five different occasions. At these different meetings 38 patients, in the aggregate, were submitted by Dr. Green and others to the test of the operation of passing instruments into the air-passages, and three, of the injection of nitrate of silver into these passages.

I. *As to the Practicability of the Operation of passing Instruments into the Air-Passages.*

This division of the Report was considered under the following heads:—

1. *History of Catheterism of the Air-Passages.*—The introduction of tubes into the air-passage is not a recent operation. It was recommended by Hippocrates, and seems to have been long practiced in preference to bronchotomy. Desault, among modern writers, also recommended it strongly. Mr. Ryland, in his treatise on *Diseases of the Larynx*, devotes a short section to this operation. Other authors allude to it as a matter of history.

2. *Results of Experiments.*—The results of experiments confirm the records of history, as to the practicability of the operation of catheterizing the air-passages. In 11 cases it was performed to their entire satisfaction. The evidences on which they rely as proofs of its success are:—

1. *The detection of the tube in the cavity of the larynx by the finger passed into the mouth.*—This was done by several of the committee, and was demonstrative of the position of the tube in relation to the laryngeal openings.

2. *The symptoms manifested by the patient.*

The symptoms which distinguish the passage of an instrument into the trachea and œsophagus, may be thus contrasted:—

TRACHEA.	ŒSOPHAGUS.
1. Suffusion of the face, rapidly increasing to turgesence and lividity.	1. Suffusion of the face slight, rapidly subsiding with cessation of retching and vomiting.
2. Great anxiety and alarm; not easily pacified.	2. Little anxiety; easily pacified.
3. Eyes wild, staring, overflowing with tears.	3. Eyes natural; slight suffusion from tears,
4. Cough violent and spasmodic.	4. Little or no cough.
5. Respiration greatly disturbed; inspiration loud, hoarse, and croupy; expiration attended with violent cough, ejection of bronchial mucus through the tube, and finally full breathing, through the instrument.	5. Respiration little, if at all disturbed; occasional puffs of air through the tube.
6. Voice extinguished, a hoarse whisper, interpreted with difficulty.	6. Voice distinct; often quite natural.
7. Retching slight.	7. Retching and vomiting a common symptom.

So prominent and characteristic are the symptoms which the patient manifests on the successful introduction of the instrument into the air-passages, and so strikingly do they contrast with those witnessed when it enters the œsophagus, that the committee came to regard the rational signs as the surest criterion of the success of the operation. In but a single instance did they fail of being exhibited with characteristic intensity. In this case the patient had suffered from a syphilitic ulceration of the air-passages, and to this circumstance, together with his enfeebled condition, was attributed the absence of the severe symptoms. Dyspnœa and lividity of the face were the only evidences of the success of the operation. They therefore establish it as a rule, to which ordinarily there is no exception, that the rational signs above tabulated will differentially distinguish the course which the instrument takes, whether into the laryngeal or œsophageal passages.

Other tests were employed, but none of them were found, on trial, free from objection.

The power of the patient to blow out a lighted candle, and to collapse and inflate, at will in respiration, a bladder attached to its free extremity through the tube, has been much relied upon as a proof that the tube had entered the trachea. But it was found that when the tube was purposely passed into the œsophagus, this power was still retained, though in a much less degree.

The passage of two sponge-armed probangs into the throat, and by the withdrawal of the lower one, calculating the position of the other, whether in the œsophagus or trachea, did not, as far as experimented with, yield satisfactory results. For it was not proved to the satisfaction of the committee that the sponge-probang entered the larynx and trachea.

The sensations of the patient are reliable only when the tube has been repeatedly passed both into the trachea and œsophagus. In these cases patients have very promptly and correctly decided which passage the instrument was entering. This fact was strikingly illustrated in Mary Norton, on whom the operation was repeatedly performed before she was brought before the committee. On the first and second trials of the introduction of the tube by Dr. Green, she shook her head, indicating that it had not entered the larynx. The operator, however, was satisfied on the last trial that the tube had penetrated the trachea, and that the sensations of the patient were not to be relied on, when she ejected a portion of the contents of the stomach through the tube, and thus demonstrated not only the position of the instrument, but equally the correctness of her sensation.

It appeared very evident also, in the course of these experiments, that the opinion of the operator, as to the course which the instrument takes, is unreliable, when he trusts to his own senses, and disregards symptoms. They witnessed in two cases the fallacy of Dr. Green's opinion, as to the success of his experiment, though based upon so large an experience. In both instances, while positive that he had successfully passed the instrument into the trachea, the patient vomited through the tube, and thus demonstrated his error.

II. *Facility of the Operation.*—While these experiments proved conclusively to the minds of the committee, the practicability of passing tubes into the air-passages, they also afforded opportunities of witnessing the facility with which the operation is performed under different circumstances, and with different instruments. These were as follows:—

1. *Previous Preparation of the Patient.*—It is contended that the facility with which the instrument is introduced depends much upon the previous preparation of the patient, by frequent application of the nitrate of silver to the upper part of the larynx. To obviate this objection, the Committee met twice at Dr. Green's office to witness the experiment upon patients whom he was treating with local applications to these parts, and at the second visit at Bellevue Hospital, the patients were selected from a class which had been expressly prepared for the experiment, by the application of caustic to the throat from three to five times during the preceding week.

The results of these experiments, however, do not sustain the above assertion. The patients on whom Dr. Green had been operating for six months, more or less, were as intolerant of the actual passage of the tube into the trachea as those first submitted to trial. The case of Mary Norton was adduced. Although the tube in her case had been passed into the trachea half-a-dozen times previously to her coming before the Committee, still she exhibited in the most marked manner all the evidences characteristic of the introduction of a foreign body into the air-passages, when the tube was successfully passed.

2. *Instruments Employed.*—The facility with which catheterism of the air-passages is performed seems to depend in a great degree upon the instruments used. Those employed in these experiments were: 1. A tube, consisting of Hutching's catheter No. 10, with a wire stilet, and bent with a curvature corresponding to a circle of six inches in diameter. 2. A tube of the same size, slightly bent at its extremity. This was the instrument selected by Dr. Green, and is the one which he is accustomed to use in practice. 3. A sponge-armed probang, the sponge having a diameter of one half to three quarters of an inch. The result of the experiments with these several instruments was as follows:—

	No. of trials.	*Failed.*	*Succeeded.*	*Per cent. Failures.*
Tube with large curve,	19	8	11	about 28
Tube with small curve,	37	34	3	" 92
Sponge probang,	18	18	0	100

From these experiments it appears that the instrument best adapted to succeed in catheterism of the air-passages, is a tube having a large curve, or one shaped like a common catheter; while that least adapted to enter the trachea is the sponge-armed probang.

1. *The Tube with a Large Curve.*—This instrument was introduced into the trachea eleven times to the entire satisfaction of the Committee. The fact that the operators were successful eleven times in nineteen trials proves that this tube can be introduced with considerable certainty into the air-passage.

2. *The Tube with the Small Curve.*—This is the instrument selected by Dr. Green for catheterization of the air-passages, and is that which he uses in practice. In these experiments he was the only one

who employed it, and the result shows that even in the hands of the most skilful practitioner, it failed of entering the air-passages in about 92 per cent. of trials.

3. *The Sponge-Probang.*—This instrument afforded the least satisfactory results of any used. Notwithstanding the most persevering efforts with the whalebone slightly bent, as used by Dr. Green, and with patients who quietly submitted to the test of experiment, the results were entirely negative. In no instance did it satisfactorily enter the trachea. In two instances, with the whalebone curved like a common catheter, the sponge was thought to have entered the larynx; but with repeated efforts it could not be passed between and beyond the vocal chords. The suffocation was so great each time as to compel a withdrawal of the instrument.

III. *The Utility of Injections into Tubercular Cavities of the Lungs.*—This portion of the report was brief. As the Committee had no evidence that injections could be thrown into tubercular cavities of the lungs, they refused to discuss, on merely theoretical grounds, the question of their utility. One of the three cases injected with nitrate of silver died within twenty-four hours after the operation, not having recovered from its immediate effects. A letter was read from the physician who made the autopsy, describing the condition of the air-passages. The mucous membrane had the appearance of a recent application of the caustic.

Conclusions.—1. Catheterism of the air-passages dates its history from the time of Hippocrates.

2. The best evidences of the successful passage of an instrument into the air-passages, are the rational signs.

3. The facility of the operation depends upon the kind of instrument used—the tube having a large curve being best, and the sponge-probang least adapted to enter the trachea.

4. That there is no reliable evidence, in the opinion of the Committee, that the sponge-probang has been passed through and beyond the vocal chords.

5. That there is no sure evidence that an instrument can be passed *at will* into the right or left bronchial divisions.

6. That in the great majority of instances where injections are supposed to have been thrown into the lungs through a tube, they have passed directly into the stomach.

7. That as regards the utility of injections of nitrate of silver into the lungs, the facts thus far developed in the experiment of the Committee, lead them to regard the operation as one fraught with danger as well as difficult.

This report was signed by Prof. PARKER, Chairman, Drs. WOOD, METCALF, and STONE; Dr. ANDERSON subscribed to all but that bearing upon the utility of injections; this he did not think sufficiently investigated; Dr. STEVENS, who witnessed but a few experiments, made a short report. Prof. BARKER made a lengthy minority report

PRACTICAL MEDICINE.

Quinoidine in the Treatment of Intermittent Fever. By J. DA COSTA, M.D., of Philadelphia.—" Quiniodine sufficiently pure for medicinal purposes, is prepared in this city by several eminent chemists, (especially, we believe, by Messrs. Powers & Weightman,) by precipitation, by means of alkalies, from the acidulous solution of the residue left after the crystallization of the sulphate of quinia. The precipitate thus formed is dissolved in alcohol, and from this solution, subsequently, the quinoidine is obtained. The amount of this alkaloid furnished by different barks varies. Thus, the red bark, which contains less quinia than the Calisaya, yields a larger amount of quinoidine. Mr. Weightman recently informed the writer that the ordinary Calisaya bark furnishes, in proportion to every 100 parts of quinia, only about 10 to 20 of quinoidine, while the New Grenada barks yield in proportion to the quinine they contain, about 40 per cent. of the quinoidine.

Quinoidine, when pure, is soluble in alcohol and sulphuric acid, from which it may again be precipitated without loss of weight. Its color is that of an ordinary extract; it is almost entirely devoid of taste. It has been occasionally medicinally employed, especially in some parts of Continental Europe, and enjoyed a high reputation as an antiperiodic in an epidemic that occurred near Berlin.

The patients for whom quinoidine was prescribed, were mostly Irish of the lower classes, who applied for advice to the Moyamensing House of Industry. In many, the intermittent fever had lasted for some length of time; it was mostly of the quotidian type. No cathartic was ordered previous to the administration of the medicine, which was given in pills of two grains each, or else dissolved in dilute aromatic sulphuric acid. The average dose required to arrest the chill in an adult seemed to be about 20 grains, six grains of which were, as a general rule, ordered shortly before the expected paroxysm, while the rest was taken during the intermission. If the bowels were constipated, a little of the extract of colycinth was with advantage joined to the quinoidine. After the chills were checked, the remedy was in some cases continued, in smaller doses; yet as patients, when relieved, are not always willing to return to a public institution, it was sometimes impossible to persevere with the treatment, and the disease then generally reappeared after the lapse of a week or two.

Of the 53 cases cited, in many of whom the disease was of long standing, the chills were arrested in 49 cases by the first administration of the medicine; only 4 required a repetition of the dose. In 10 cases the disease returned, which, although it may seem a large proportion of relapses, is not in reality so, when we consider the well known tendency of intermittent fever to return, and the fact that, in many of the cases, no medicine, for reasons above stated, was given after the first arrest of the chill. In conclusion, the writer can state as his honest belief, that quinoidine possesses antiperiodic qualities which, if not superior, are certainly not inferior to the sulphate of quinia or cinchonia, whilst he thinks it preferable to these, from the absence of bitter taste, from its being less liable to affect the head or the stomach of the patient, and from its comparatively low price.*—*Med. Examiner.*

Fluid Extract of Scutellaria. By Joseph Bates, M.D.—"Lately I have used Tilden's fluid extract of scutellaria with signal success in the treatment of diseases attended with nervous hesitation and irritability, restlessness, &c. In the treatment of children, it is invaluable for allaying these symptoms. The dose is a teaspoonful, repeated as often as the circumstances or indications require. It may be relied upon in some forms of hysteria. Patients convalescing from typhoid fevers, pneumonitis, arthritis, &c., or any disease with those symptoms, will be shortly relieved by one or two teaspoonsful of this preparation. I have no hesitation in saying that those who give it a fair trial will find it efficient in the treatment of many diseases for the relief of which small doses of opium are frequently given, without any of its unpleasant sequences."—*Boston Med. & Surg. Journal.*

Extractum Sumbul Fluidum (Musk-root). By Prof. William Procter, Jr.—Within a few months past several physicians of Philadelphia have prescribed a fluid extract of sumbul, (musk-root) which is stated by Mr. Simes to be of the strength of a grain to the minim. As musk-root is analogous in its therapeutic properties to valerian, the following recipe has been made to correspond in strength with the officinal fluid extract of valerian for this reason, as well as because its peculiar constitution seems to require more menstruum than the proportion stated by Mr. Simes.

Take of Musk-root,	four ounces (troy)
Ether,	four fluid ounces.

Alcohol and water, of each, q. s.

Bruise the musk-root, moistened with a little alcohol, until reduced to a coarse powder; mix the ether with twice its volume of alcohol, pour it on the musk-root, macerate in a covered vessel, for 24 hours, and introduce the mixture into a suitable percolator. The absorbed tincture (which has a light brown color) is displaced slowly by alcohol (sp. gr. 835) until twelve fluid ounces are obtained, when the process is continued with a mixture of alcohol and water (equal parts) until a pint has passed. Water is then poured on the residue until a pint of liquid has filtered. The ethereo-alcoholic tincture is suffered to evaporate in a warm place until reduced to two fluid ounces; the hydro-alcoholic tincture is concentrated on a water bath to the same bulk; and the watery infusion evaporated to one fluid ounce. The two last liquids are now mixed, three fluid ounces of pure alcohol added to the first (ethereal) liquid to dissolve the oleo-resin, and the other mixture added gradually with agitation, so that the whole shall measure eight fluid ounces, the mixture being afterwards shaken occasionally for 24 hours. A portion of oleo-resin and some gummy extractive remain undissolved, and must either be removed by filtration or left as a sediment

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*About one seventh of the price of the sulphate of quinia.

When the ethereo-alcoholic tincture is evaporated to one sixth, nearly all the oleo-resin separates, and hence the necessity of redissolving this by alcohol before adding the other liquids.

The dose of this fluid extract is from 15 minims to a fluid drachm. The properties of the preparation are analogous to those of valerian, and are used in hysteria, dysmennorhœa, and other nervous disorders, and Dr. Wood informs us that it is highly valued in Moscow as a remedy in delirium tremens.—*American Journal of Pharmacy.*

SURGERY.

Gunshot-wound of the Neck.—Ligature of the Common Carotid Artery.—Recovery. By C. E. Isaacs, M.D., of New York.—"About the middle of last January I was requested to meet Professor Willard Parker, in consultation upon the case of a man who had been admitted into the Hospital on Blackwell's Island, with a severe *gun-shot wound.* On inquiring into the circumstances, we ascertained that, sixteen days previously, the patient had attempted to destroy himself by placing the muzzle of a pistol, loaded with a conical ball, near to the angle of the jaw, and then discharging it. The ball entered about an inch below the angle of the jaw, producing a moderately-sized external wound, but tearing the parts within extensively. The hemorrhage, which was profuse, was restrained at the time by compresses, bandage &c., &c., but continued to recur at intervals of two or three days, up to the period at which we were called in to see him. On removing the dressings, a small quantity of dark blood, mixed with semi-purulent matter, issued from the wound. From the appearance of the parts and that of the discharge, and in consideration of the great space of time which had elapsed since the occurrence of the injury, we hoped to control any future hemorrhage without the necessity of resorting to an operation; we therefore directed the compression to be kept up as before, and the patient to be carefully watched, &c., &c, However, on the next day the hemorrhage recurred in such a furious manner as to render it evident that some operation was now required to save the life of the patient, who was much enfeebled by the loss of blood.

"With the kind assistance of Dr. Parker, I then proceeded to ligature the carotid just below the point where it is crossed by the omo-hyoid muscle. I then dilated the wound by cutting outwards as far as the edge of the sterno-mastoid, upwards and inwards towards the lower border of the inferior maxillary bone, and downwards so as to reach the incision previously made for the carotid. Turning out the coagula rapidly with the finger, the hemorrhage became very profuse. Sponges were pressed into the wound, so as to arrest the bleeding, aided in some degree by firm pressure on the sides of the wound by the fingers of the assistants. The most accessible vessels were first secured; then, by gradually withdrawing one sponge after another, others were tied, and so on, till nearly the whole of the hemorrhage was arrested. The finger could now pass in the track of the ball, through the base of the tongue, so as to reach the region of the arteries of the external carotid of the *opposite* side, which had been wounded by the ball, and were now pouring out blood, but in small quantity. As these were at such distance from the surface, and situated, as it were, at the apex of a deep conical cavity, they could not be fairly seen, or reached by a ligature. Compression was therefore relied on for the arrest of blood from this source. Careful and cautious research failed to detect the ball, which had not passed out of the body. The parts were now brought together by sutures, adhesive strips, &c., and moderate compression was made on the wound. The patient was carefully watched, but the bleeding did not recur. The wound healed rapidly, and without interruption, and at the end of a few weeks he was discharged from the Hospital, cured."—*New York Med. Times.*

Fracture of the Os Hyoides. By Prof. T. Wood, M.D.—Through the kindness of our friend, Dr. P. G. Fore, of this city, we were invited to examine a case of fracture of the *os hyoides*, that had occurred about one week before we saw it, in one of his patients. The patient was a female, about thirty years of age, who had fallen down the cellar steps, striking the prominent part of the larynx and hyoid against a projecting brick, severely injuring the larynx as well as fracturing the bone. The fracture was on the left side, and near the junction of the great *cornu* with the body of the bone. Crepitation was distinctly felt, on pressing the bone between the thumb and finger ; or, when the patient would swallow ; though, at this time, the severe symptoms that followed the accident, and continued several days, had somewhat subsided.

Immediately after the accident, there was profuse bleeding from the fauces, and she experienced great difficulty and pain in the act of swallowing, and the power of speech was almost entirely lost. On attempting to depress or protrude the tongue, she felt distressing symptoms of suffocation. Considerable inflammation and swelling of the throat and larynx ensued, and continued in some degree up to the time of our visit.

To-day (about four weeks since the accident), Dr. F. informs us, that the patient has so far recovered as to be able to converse, though the voice is somewhat impaired. She is yet unable to swallow solid food, and is wholly sustained by fluids.—*Western Lancet.*

Strangulated Femoral Hernia containing Ovary and Fallopian Tube.—The following are the principal facts of a case of femoral hernia related by Prof. Parker in the *N. Y. Med. Times.* Miss F., æt. 69, had for many years a reducible hernia on the right side. When called to see her she had been suffering three days; the tumor was hard, of the size of an English walnut, tender at its neck, and situated under Poupart's ligament. The taxis having failed, chloroform was administered, and the operation commenced. The intestine was returned without much difficulty, but on removing a mass of dark, shreddy and vascular substance remaining, a ligature had to be applied, which brought into view an ovary. The whole was therefore returned, the wound closed, and morphine freely given; the patient recovered. Another case is referred to in the *Gaz. Méd.* in which the cæsarian section was performed upon the uterus occupying a hernial sac. The patient was æt. 44, had seven children, had long suffered from inguinal hernia; at the sixth month of her eighth pregnancy it became strangulated, but was reduced. It soon returned, and she went her full term; labor began, the os dilated and the waters escaped by the vagina; the tumor was twenty-five inches in circumference and twenty-three in length. The sac and uterine wall were then laid open, and a well-formed living infant removed; patient died on the third day. Velpeau mentions a case in which the uterus at term occupied a femoral hernia, and was spontaneously delivered; in a case related by Frank the uterus protruded through the linea alba, and Flament cites a case complicating umbilical hernia.

Foreign Bodies in the Air Passages. By Prof. JOHN M. WATSON, M.D., of Nashville, Tennessee.—In the *Nashville Journal of Medicine and Surgery* we find the instructive particulars of eight cases of this accident. Three of the cases, with the general remarks which follow, we copy :—

A clever little boy, about 10 years old, the son of Mr. Paul Johns, of Rutherford Co., inhaled a large grain of corn into his windpipe, in the year 1848. I saw him the following day in consultation with several very intelligent physicians. We all concurred heartily in the propriety of tracheotomy. I opened the trachea; some hemorrhage and coughing followed, his face became livid, he gasped for breath, and appeared to be in great danger of suffocation. Some of the physicians cried out that he was dying from internal hemorrhage; fearing that the trachea was not well opened, I enlarged the primary incision, and the grain of corn was then seen protruding slowly through the wound, and was promptly detached. All the symptoms of suffocation subsided immediately, showing that hemorrhage had nothing to do with the urgency of the previous symptoms. The wound was dressed as in the other cases. The patient had no bad symptoms afterwards, and rapidly recovered.

This case occurred in the month of August, 1852, near Nolensville, Tennessee. The little patient, a son of Esq. Edmonson, was about 7 years old. He inhaled a watermelon seed into his windpipe. I saw him in consultation with Dr. James Scales, and we agreed upon the operation of tracheotomy for his relief. I opened the trachea; but little hemorrhage followed. Moderate coughing followed, and in the course of ten or fifteen minutes the seed was ejected through the opening. He recovered without any bad symptoms.

Case of Spontaneous Expulsion of a cockle-bur from the trachea of a little boy six or seven years old, the son of Mr. Cofield Seward, of Rutherford county. I was called to see the child, expecting to perform the operation of tracheotomy for the removal of the bur, but was agreeably disappointed by its spontaneous expulsion. The rough, prickly covering of the [illegible] was thoroughly [illegible] and [illegible] [illegible] by the [illegible] of the [illegible].

I think tracheotomy a safer operation for the removal of a foreign substance from the respiratory tube than laryngotomy, although the former is more difficult to perform. The [illegible] not admit of an opening sufficiently large for the expulsion of a [illegible] of [illegible] the [illegible] into the air passages. I do not think that tracheotomy, when properly performed in a normal state of the vessels involved in the operation, would ever give rise to dangerous and alarming hemorrhage. Moreover, any of the vessels may be easily ligated if necessary.

Sutures should never be employed in order to close the wound; nor should the wound be closed by adhesive strips; it is best in all cases to leave it open, and protect it against the [illegible] of external irritation, either by a piece of gauze or an adhesive strip, applied for that purpose. More or less tumefaction and infiltration around the wound must of course ensue, which would compress the trachea in front, being greatly weakened at that point by the opening in it. The danger of infiltration of blood and serum between the respiratory tube and its investing tissues, would, by an early and perfect closure of the wound, be greatly augmented.

On Chloride of Zinc as a Caustic in Chancre. By James H. Conway, M.D., of Richmond, Va.—For several years I have been in the habit of using the chloride of zinc as a caustic to chancres, to the exclusion of all other agents of the kind; and although I do not claim originality in the use of a remedy so well known to the profession, yet its application was first suggested in the fall of 1852, by a case of most obstinate chancre, in which it proved so efficient a remedy that I determined to try its effects in cases which would probably yield to the caustic usually employed and highly extolled by Ricord—namely, the nitrate of silver.

In the case alluded to, the chancre was situated immediately behind and below the glans penis, nearly perforating the frænum, and so deep as to cause the apprehension that the urethra would be finally opened, and hypospadias established. After trying a variety of caustics, I finally determined to resort to the chloride of zinc, which was applied but once, and, in a few days, followed by complete cicatrization of the ulcer. Since then I do not think that I have used any other agent, except in two instances. In the first, I employed the nitrate of silver and afterwards the chloride of zinc, for the purpose of ascertaining the relative amount of pain produced by either, and the patient declared that the latter was the less painful. Certain it is, that the aggregate amount of pain is less from the chloride of zinc, as it is rarely necessary to apply it oftener than once, whereas the lunar caustic, however freely you may use it, generally requires repetition.

The manner in which I apply it, is by making a saturated solution, or, as it is exceedingly deliquescent, by exposing a small quantity to the air it becomes dissolved, and then, by means of pieces of paper twisted to a point and filled with the solution, the chancre being carefully wiped dry, it is applied, and again wiped to prevent it spreading. The application is repeated, until a white eschar is formed, and then dressed with dry lint. If, however, I think it has been too freely used, I mop or swab the part with water, which readily dissolves the superfluous quantity applied.

I should scarcely think my experience in the use of this agent worthy of record, were I not fully convinced of its utility. Believing the first indication in the treatment of syphilis to be the destruction of the chancre, the source of the poison to the general system, I do most cordially recommend it as the best preventive of constitutional syphilis, even in many respects superior to the knife.—*Virginia Med. and Surg. Jour. for June: p.* 473.

Remarks on Fractures.—At the late Annual Meeting of the *American Medical Association*, as will be seen by reference to the Proceedings published in this number, Dr. Hamilton submitted "*a Report on Deformities after Fractures*" pending which Prof. Hamilton made the following remarks, which we copy from the *Buffalo Med. Journ.*—"Dr. Hamilton said he had a word to say which did not belong to the report. Prosecutions for mal-practice have become so frequent that surgeons were alarmed, and not a few were abandoning the profession or refusing altogether to undertake the treatment of grave surgical accidents, and especially of fractures. So frequent were these prosecutions that members were no longer surprised at such statements. If they had heard the speaker say that lawyers were abandoning their profession from this cause, they would have been startled, but to us the fact is familiar.

It is proper for us, then, to interrogate ourselves. Why is it that we are held to an accountability so much more strict than any other professional men, or than any other artisans? Is it because there are jealous and designing men in our own ranks, who instigate these suits? No doubt, such men may be found, but only as an exception. The fact is, that surgeons have sometimes been mulcted in damages simply because the jury believed, from the united character of the medical testimony, that it was a conspiracy, and the more conclusive the testimony, the more certain, with some jurors, is the defendant to suffer.

Is it chargeable to the members of another profession—to the lawyers? There may be some men in the profession of law, also, who, driven by the sheer necessity of their circumstances—by their extreme poverty, or who, without any such apology, with only loose notions of right and wrong, encourage and undertake such suits—such are the men who hang about the Tombs of New York, and who may be found, more or less, in every town—but the speaker has reason to believe that honorable and intelligent lawyers seldom countenance these prosecutions. That eminent jurist of the State of New York, Joshua Spencer, has told Dr. Hamilton, that for himself he does not think that he ever commenced a suit of this character, although he has been frequently retained as counsel, and he believes his brethren, generally, look upon these complaints with suspicion and refuse to meddle with them.

Where, then, must we look for an answer to the question, why are these prosecutions against surgeons so frequent? Let the gentlemen be assured, the causes are to be found in the *very imperfections of our art, and in our own unwillingness to admit these imperfections.* Surgeons have claimed too much, and it cannot certainly be expected that the world will demand of them less than they claim for themselves. Again and again surgeons have said that a fracture of the femur might be generally made to unite without any shortening, while the fact is not so. Malgaigne, who is eminently an honest man, says, to make this bone unite in an adult person, where the fracture is sufficiently oblique to prevent the ends from supporting each other, is "simply impossible" (*simplement impossible*).

Let the profession be wiser in the future and acknowledge that they cannot perform impossibilities.

Amputation of the Thigh in Civil and Military Practice.—The Comparative Success of Secondary Amputations. By RICHARD McSHERRY, M.D., of Baltimore.—The great fatality which attends upon amputation of the thigh after gun shot wounds is evidenced by the fact, that, during the campaign in Mexico, under Gen. Scott, there were no recoveries, so far as Dr. McSherry could learn, after the operation. This mortality is not peculiar to our country, as Mr. Ribes examined four thousand invalid soldiers, among all of whom he did not find one single instance of injury of the femur by shot, nor one who had undergone amputation of the thigh. Malgaigne was equally unfortunate with all his cases during the Polish campaign. In civil life, the case is widely different. The statistical tables, published by Dr. Norris, state that during a period of ten years, of sixteen amputations of the thigh, performed in the Pennsylvania Hospital, fourteen recovered, and but two died. The two fatal cases were primary amputations, after fracture of the thigh and compound and comminuted fracture of the leg, respectively. Of the fourteen successful cases, seven were fractures (one ununited fracture of thigh), one tumor on the knee, and six caries of knee-joint. These results are favorable, Dr. McS. thinks, to secondary amputations.

In the Parisian hospitals, there were, in ten years, forty-four amputations of the thigh. Of these, thirty-four died, and ten recovered. All of these, however, were amputations after *traumatic* lesions. A comparison of these results exhibits, Dr. McSherry observes, that patients who undergo great operations, in full robust health, are more liable to perish than those who are subjected to them for chronic disease. There is abundant proof, also, that delay *is* advantageous. Dupuytren, in 1830, treated fourteen cases of fracture of the thigh *without* amputation; of these six recovered and eight died. Malgaigne reports five cases treated by himself, *without* amputation, of whom two recovered and three died. These results, compared with those in the same hospitals after amputation (see ante), show that the chances of life were greatest where the operation was not only deferred, but foregone altogether. Dr. McSherry considers that these facts show that the rule that the thigh must be amputated immediately upon fracture of the femur by shot, is a bad one, inasmuch as it requires certain destruction of the limb, without adding appreciably to the chances of ultimate recovery. When there is thorough disorganization of the limb from injury, the case, of course, is different. The *exception*, however, should not be made the *rule.—American Jour. of Med. Science.*

Remarks on Acute Glossitis. By Israel Moses, M.D., Assistant Surgeon U. S. A.—In the *Medical Times*, for June, Dr. Moses reports four cases of this affection. Upon these cases, he makes the following remarks:—It will be seen from the above history, that glossitis usually commences with the ordinary symptoms of an inflammatory disease—with pain and rapid tumefaction of the tongue, difficult deglutition, great dyspnœa, and soon followed, if no relief be afforded, by all the symptoms of congestion of the brain and lungs. The tongue, at first red, soon becomes dry and thickly coated with yellow, rapidly increases in size, so as to occupy the entire cavity of the mouth, and even protrude between the teeth, making it impossible for the patient to articulate, or swallow. There is a constant flow of saliva from the mouth. The progress of glossitis is generally rapid, occupying from twelve hours to five or six days, and terminates either in death, resolution, abscess, or gangrene, all which terminations are seen in the history of our four cases. So rapid a termination as in the one fatal case, is a very rare occurrence, and only happens in constitutions broken down, by intemperance or disease. The *treatment* of the disease in a healthy subject is simple, and the remedies must be early and actively employed. General and local depletion carried to a considerable extent, with free purgation, nauseating doses of tart. ant., with hot baths, complete the round of treatment. Two or three deep incisions into the tongue from the base to its apex, is the best mode of local depletion; care being taken to avoid the ranine arteries. M. de la Malle, in the Mem. de l'Acad. de Chirurgie, gives several instances of the advantage of incisions; and Camerarius has recorded a case, in which the patient was rescued from impending death by this operation.

Job. a Meckœn, a Dutch surgeon, who lived in the sixteenth century, adopted this practice on several occasions with the most complete success; and occasional cases of the success of this treatment are scattered through the European journals. In broken-down constitutions, like that of case IV., remedies must be used with caution, though rarely attended with success; the disease rapidly terminating in gangrene, and death. The operation of tracheotomy is occasionally required where the respiration becomes extremely difficult, and has been performed with success in a case recorded by Mr. Bell. The above case was published some years ago; and I proposed making more extended remarks upon the disease, but I find I have already perhaps exceeded the limits which I might expect to be accorded in your journal.

MISCELLANEA.

A New German Medical Society.—We are pleased to learn that a new German Medical and Surgical Society has been organized at the University Medical College, in this city, for the purpose of cultivating medical science, and promoting the interest of the profession at large.

The utility of such associations in exciting a more general interest, and in enlisting individual enterprise for the advancement of science, needs no comment; and it is quite natural that the German practitioners amongst us should avail themselves of the advantages of scientific co-operation. There are also specific reasons for the organization of such Societies,—the difference of the languages which prevents many German physicians from realizing the full benefit of similar American Medical Societies. Again, it enables them to remain in constant connection and acquaintance with their own medical literature, which we consider most laudable. The present number of its members is about forty, with the prospect of rapid increase. Its constitution is framed on a most liberal basis, scientific qualifications and moral integrity being the only requirements for obtaining membership. In reference to its internal organization, the English plan has been preferred, so as to lay all minor business into the hands of Committees, leaving the time for scientific transactions unimpaired.

In order to encourage scientific research, the Society offers to publish, at its own expense, all papers read, provided the scientific committee has deemed it qualified for that distinction. The following is the list of officers:—

President, DR. SCHERMER; Vice-President, DR. TELLKAMPF; First Secretary, DR. KAMMERER; Second Secretary, DR. JACOBS; Treasurer, DR. BRUNNINGHAUSER.

The Jews' Hospital.—A new hospital has been added to the list of *Institutions* already in existence in this city; we refer to the *Jews' Hospital*, so called—having been planned and erected by the munificence and voluntary contributions of members of the Hebrew faith. The hospital is situated in 28th street, between 7th and 8th Avs., and can accommodate from 100 to 150 patients. It is built with all modern improvements, being excellently ventilated,—with high rooms—hot air furnaces, and every convenience in the way of water and closet accommodations desirable. The house was opened on the 5th of June, for the reception of patients, and numerous applications have already been made. The following is the Medical Staff:

Resident and Attending Physician: Dr. MARK BLUMENTHAL;

Attending Surgeons: Drs. ISRAEL MOSES, TH. P. MARKOE and ALEX. B. MOTT;

Consulting Physicians: Drs. C. R. GILMAN, W. DETMOLD, WM. B. MCCREADY, and W. MAXWELL;

Consulting Surgeons: Drs. VALENTINE MOTT, WILLARD PARKER.

Asylum for Inebriates.—The Commissioners appointed by the Legislature of the State of New York to organize this institution and receive subscriptions to its capital stock, thus state the object of this enterprise in a recent report:—"The object of this institution is to provide an asylum for the poor and destitute inebriate, where his physical and moral condition will be alike the care of the physician and the philanthropist, and where his labor may be rendered productive and of service to his family. With the asylum there will be connected work shops, in which each patient, as soon as his condition will permit, will be regularly employed—thus making the asylum a self-supporting institution. It will be seen that the community will thus be relieved of the burden of maintaining inebriates in almshouses and prisons; who will be separated from the society of those incarcerated for public crimes, and placed where their inebriety will be treated as a *disease*, and where no efforts will be wanting to produce in them a thorough reformation; and where an income from their labor will be secured to their families, who otherwise would be left to penury and suffering. To carry out successfully the great aim of the institution, $50,000 must be raised; this being the amount of Capital Stock required by the charter. This amount, which can be increased when necessary, is divided into shares of $10 each. Any person wishing to subscribe to the Capital Stock, can send his name with the amount he will take to any one of the Directors."

The Directors design to lease a building temporarily and enter at once upon the work for which the Charter was granted. We regard this undertaking as one of the most benevolent of the age, and it is gratifying to see it patronized by the State.

Women's Hospital in New York.—Since our last issue this charitable institution has been publicly inaugurated. The special object of this charity is to afford accommodation and treatment for a class of poor women not otherwise provided for in our city. The list of officers and managers of this Hospital embraces the names of some of the most prominent among the benevolent, enterprising, and respectable ladies of our city. The medical board of the institution consists of the following: J. MARION SIMS, M.D., *Attending Surgeon;* ALEXANDER H. STEVENS, M.D., VALENTINE MOTT, M.D., *Consulting Surgeons;* EDWARD DELAFIELD, M.D., JOHN W. FRANCIS, M.D., *Consulting Physicians.*

Marine Hospital. — ELISHA HARRIS, M.D., of this city, entered upon his duties as Physician-in-Chief to this important hospital, on the 28th of June, by appointment of the Governor and Senate of the State. Dr. Harris is well known to our readers, by his contributions to the pages of this Journal, as an able scientific and practical writer. His appointment, based upon professional merit, reflects creditably upon the State Administration.

Ohio State Medical Society—Patents.—At the last Annual Meeting of this Society, held at Zanesville on the 5th, 6th, and 7th ultimo, the Society very promptly, and with much unanimity, repealed the resolution offered by Dr. Grant at its annual session in 1854. As the knowledge of the passage of the resolution [illegible] [illegible] [illegible] [illegible] [illegible] of the Society we [illegible] the resolution [illegible] [illegible] [illegible] them [illegible] with the [illegible] that our [illegible] and the profession generally will [illegible] with the [illegible] of the [illegible] [illegible] [illegible] [illegible] [illegible] of [illegible] [illegible]. The following are the resolutions:

Resolved, That the resolution offered by Dr. Green, a member of this Society, and who is also at this time a practitioner of medicine, at the last session of this Society which says "that it is not derogatory to medical dignity, or inconsistent with medical honor, for medical gentlemen to take out a patent right for surgical or medical instruments," was offered at a time when many members of the Society had left for their homes, and was not, therefore, the sense of the Society.

Resolved, also, That said resolution is in direct opposition to the Code of Medical Ethics adopted by the Society, and therefore, be it further

Resolved, That said resolution offered by Dr. Green and adopted by this Society be, and is hereby, rescinded.

College of Physicians and Surgeons.—We are gratified to learn that this College have purchased an eligible site for a new edifice, at the corner of Fourth avenue and Twenty-third street. The building is to be a model of its kind, and will be ready for occupation at the usual season of commencing the winter course of lectures.

TO READERS AND CORRESPONDENTS.

☞ We are under obligations to Prof. F. H. Hamilton, of Buffalo, N. Y., for the privilege of presenting our readers with the Monograph of Mr. Amussat, of Paris, *On the Treatment of Hemorrhoids*, illustrated by the original French plates. The Monograph and stereotyped plates were transmitted to Prof. Hamilton on account of his excellent translation two or three years since of Amussat's work on *Water in Surgery*.

☞ We are compelled to lay over several original communications, a review of Meigs and Holmes' works on puerperal fever, bibliographical notices, &c., &c.

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THE NEW-YORK

JOURNAL OF MEDICINE

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*Some Observations on the Fevers prevalent on the West Coast of Africa, made at Gaboon, Latitude* 0° 30′ *N., Longitude* 9° 17′ *East from Greenwich; during a residence of four years, from* 1851 *to* 1855. BY HENRY A. FORD, M.D.

THESE fevers, generally known as "African Fever," "Guinea Fever," "Bulam Fever," or "Coast Fever," so much feared by Europeans, and so often proving fatal to foreigners, are doubtless malarious in their origin, and, in general features, are similar to those produced by marsh miasmata in other countries and climates.

The face of the country, in this region, is of a nature usually found to be productive of malarious disease, and as a minute description of the topography of the country would lead me too far from my present design, I can only remark, that, like a large proportion of this entire coast, the land is generally low, often intersected by rivers and creeks, and covered by mangroves, bamboos, and other water-loving trees, and often overflowed by tides and freshets. This portion of the land seems to give character to the climate of the whole country, since although there is much dry land, and this is often elevated, yet it is so surrounded by swamps, that the atmosphere is uniform throughout the entire region.

These remarks refer entirely to the coast. Interior, the face of the country is different, and, unless the dense forests generate disease (or rather the cause of disease), the climate may be healthy. These regions, however, have never yet been tried on any extended scale, all settlements having hitherto being made on the coast, or upon the rivers that are on a level with the sea.

Before entering upon the description of these fevers I will premise that, from the most careful observations I have been able to make, I am led to believe that too much distinction has been made between the different forms of malarious fever. In these localities, at least the intermittent in its various types, the remittent or "bilious," and the continued forms (which last occasionally occurs in persons of a peculiar temperament) are essentially one disease. The great division of diseases, and consequent multiplication of names, is not a matter of so great consequence as the diversity of treatment instituted by many practitioners, founded on a supposed difference in the pathology of these several forms of fever. To this I object, and, for this reason among others, I have treated of them as one disease. The relationship of these forms of fever is proved by the identity of locality. They all occur in the same localities, among residents as well as among transient persons. Again, they attack different persons at the same time and under similar circumstances, and the same persons at different times. All forms follow the same law of return. That is, all (indiscriminately) are likely to recur at hebdomadal or lunar periods. I have observed no difference, in this respect, between the various forms.

Again, on the recurrence of fever, at these periods, one form often succeeds another. Again, it often happens that an intermittent becomes a remittent or continued fever—and again, the last become intermittent. The last change happens in cases of gradual convalescence—the first in the increase of disease often arising from some organic cause. Lastly, the same general course of treatment is adopted in each form of fever. Though, in the opinion of many, the last proof may itself need to be substantiated, I can only say, I verified the propriety of the treatment in a large number of cases.

In view of these facts, I shall, in my "observations," first point out the appearances common in our cases of *fever*, afterwards (for the sake of greater clearness) note those symptoms that are peculiar to the different forms or phases that *fever* assumes.

To a person accustomed to observe his own sensations, there is generally a preparatory stage of fever, anterior to the (so called) stage of "invasion," which, though often overlooked or forgotten by the patient, is a part of the disease. This stage is of great moment, as it regards treatment; since in many cases, perhaps uniformly, the disease may be stopped here—the subsequent stages entirely prevented. It appears to be (or serves as) a warning given by Nature of approaching disease.

I believe that it is not peculiar to miasmatic fevers, perhaps not to fevers. The same symptoms are noticeable in the commencement of inflammatory diseases.

The variations from a healthy standard, in the sensations, as well as in the functions of various organs, are numerous. For a length of time (perhaps days) before the access of fever, the patient notices a loss of appetite, restlessness or sleeplessness, an unpleasant taste in the mouth, particularly on rising. These may be attended by constipations, and subsequently by uneasiness and restlessness or weariness. The most intense weariness I ever experienced has come on *spontaneously* in this stage of fever. There is a susceptibility to cold, and dryness and harshness of skin is present. The urine is copious and pale, which are often the first symptoms noticed by the patient. The pulse is usually unaltered, though sometimes frequent and small. There may be slight headache and irritability of stomach, though these are usually developed later in the disease.

The mental faculties are usually slightly disturbed. There is an incapacity for close thought, and the patient is soon wearied by study. The imagination, however, is occasionally active, and the patient shows a restless desire to be engaged, without the ability to confine himself to any particular engagement. There is occasional moroseness and feverishness, or perhaps timidity and an indefinable apprehension of coming danger. These symptoms appear separately, or are variously combined in greater or less intensity in different individuals, and at different attacks.

There are, however, many cases in which this formative stage does not occur, but that of invasion makes a sudden irruption. Some exciting cause comes in, giving rise to the fully developed attack at once.

In susceptible persons, this happens after exposure to the direct rays of the sun; severe and long continued exertion; sitting in wet clothes after a rain, the wetting not proving as injurious, if the person is able to obtain shelter and dry clothing. Great mental excitement produces a chill, as joy, sorrow, or fear. In these cases the attack is prompt and powerful, but not usually serious in its results.

After an indefinite period, varying from twelve hours to two days, another series of symptoms set in. These, though equally varied, are more apparent. This, usually called the "attack," is in part the second stage, or that of "invasion." It begins with a disposition to yawn and stretch, succeeded by cold. The patient wishes to shield himself from the wind, or put on additional clothing, or lying down covers himself with blankets; feeling the cold, however, in his feet and hands first, from thence it passes to the spine, and creeps over the whole body, always, however, producing the impression that the seat of the disease is in the extremities of the spine, to which the patient begs to have the heat and stimulants applied. If cold is not speedily relieved, the chill becomes a rigor, although I have not often known an uninterrupted chill prove as severe as in the common intermittents of the United States.

In some cases the chill is light, but it is attended by nervous symptoms of a most distressing kind. The patient seems paralyzed, dizziness comes on, he seems unable to stand or walk. Either from an exclusive attention to his own feelings, or real mental aberration, he is unconscious of objects and scenes about him, and only complains of prostration and want of breath. Occasionally the chill is attended with pain in the back and limbs, extending even to the feet, with headache. Some patients uniformly feel deeply-seated pain in the epigastrium, which produces faintings and intense prostration. Others complain of a belt of pain around the body on a level with the umbilicus, or higher up through the inferior parts of the chest; others feel pain simulating pleurisy, pervading the chest and impeding its movements. In case of chronic uterine disease there is often intense pain in that "organ" and the surrounding parts, extending to the hypogastrium and the iliac regions, as well as to the sacrum, simulating the true acute hysteritis, which, however, need not be feared, as the pain subsides before the close of the succeeding stage.

The general appearance of the patient is characteristic of the stage of the disease. The face is pale, the skin shriveled, the nose contracted, or apparently more pointed than natural, the lips blue or purple, eyes dull and heavy. The pulse is unusually slow and feeble. This chill usually yields, under the application of heat and stimulants, after a short time. In many cases, however, even these applications are unnecessary, as the chill subsides spontaneously, but occasionally it returns on the accession of the third stage, making the patient exceedingly uneasy by distressing alternations of heat and cold, flashes of heat and chills succeeding each other.

In a large number of cases, however, there is no chill at the "invasion," but headache, nausea, pains in the back and limbs, and various sensations such as are described as attendant upon ague. These take its place, for a time, and eventually pass into the third stage—the stage of invasion. I have noticed this mode of attack, in cases of new residents, in first fevers, such persons usually supposing that they have "a cold," or are weary, and do not admit that they are sick, until the fully developed hot stage forces them to apply for aid, though cases often happen in which they delay until the use of remedies becomes vain, and death follows as the penalty.

In regard to the time of the accession of the second stage, I have observed, in this climate, a marked variation from the hours at which it is represented by most authors to make its appearance here. Though a large number of persons have been attacked during the day, usually in the forenoon, yet many are attacked at *night;* some on retiring to rest, some uniformly at or about midnight, and others some hours before day.

After an indefinite period, varying from one to six hours, the chill gradually subsides, the body becomes warm, and the extremities soon return to their natural temperature. The reaction, however, does not stop here; the patient, from feeling a pleasant glow which is often very grateful after the rigors just passed, begins to complain of heat. He throws off the bedclothes and asks for air; the skin becomes red and hot; face loses its shrunken appearance, becoming turgid; the eyes appear bright and watery; the pain in the head, if it previously existed, increasing; thirst usually becoming urgent; nausea coming on, with pain in the back and limbs, as in the previous stage. The nausea is often a most distressing symptom, not only harassing the patient by vomiting, but producing intense thirst, and forbidding the use of remedies by the mouth. In many persons it is a constant attendant on fever, from first to last, and becomes the most serious complication in the course of this disease. This occurs in cases not otherwise serious and entirely uncomplicated with organic disease.

The pulse always in the beginning increases in frequency and force—those cases not excepted in which the pulse subsequently falls, which are hereafter to be described. The range, however, is very great, being from 80 to 130 beats in a minute, even in mild, uncomplicated fever.

The urine is always changed. It becomes scanty in most cases. The color in ordinary mild cases is brown, in malignant cases, *red* or *black*. There are no more constant symptoms of violent disease than these changes in the urine. No patient can be considered out of danger, while the urine remains red or black. Inspection of this secretion should never be neglected by the attending physician.

When the fever is fully developed, in addition to the headache, a variety of strange sounds are occasionally heard, as whistling, murmuring, and crackling noises; at other times there is deafness. These all simulate the effects of quinine, and are sometimes mistaken for them, which is the more unfortunate, as they indicate grave disease. The diagnosis, however, is not difficult, if the attendant physician have a clear idea of the sensations caused by quinine. It seems to the patient as if the ears were stuffed with cotton, or some other soft substance. The deafness is not a simple abolition of hearing. The patient is inclined to pick his ears, as if some foreign substance were in them. Quinine is, furthermore, attended by perspiration in most cases.

The tongue, in the commencement of fever, is usually clean or covered only with a slight, white fur. If, however, the disease remain unchecked two or three days, the fur becomes thick and brown, or yellow. When the paroxysm remits, the tongue soon begins to throw off its load, commencing at the edges and tip. The appearance of the tongue in this, as in other fevers, is diagnostic of the stage of the disease. If it clears gradually from the borders, the central fur becoming rugged and broken, the disease may be considered as yielding. If, however, the fur flakes off in the center of the tongue, leaving a red surface, some gastric or other disease of the alimentary canal may be suspected. In favorable cases, the tongue often loses its entire coating in a few hours. If the tongue remain loaded and become dark-colored, with sordes on the teeth, the patient is becoming prostrate and demands active stimulants.

This stage of fever is variable in its length. In most cases there is an intermission, or remission, within twelve hours, although the paroxysm may continue, under some circumstances, eighteen or twenty hours, still retaining the character of a true intermittent. Remittents are occasionally still more tedious. These remarks refer only to the first paroxysms. If cases are properly treated, the future paroxysms will not be protracted beyond twelve hours in simple fever.

The fourth stage, that of "resolution," is ushered in by perspiration, which first appears on the forehead, neck, and arms, and is gradually diffused over the whole body. Occasionally, this is sudden and profuse, but often slight and evanescent—a simple moisture. The pains in back and limbs abate, the headache subsides with the nausea, the urine becomes more copious and of lighter color, the pulse lessens in frequency—often very decidedly—occasionally falling to its natural standard.

This is the end of the fever, so far as it can be said to end spontaneously. It is the signal for action on the part of the physician. If the opportunity is improved, succeeding paroxysms will be ameliorated—often they can be prevented.

The period of convalescence depends upon the severity of the attack. If the fever is checked after the first or second paroxysm, the confinement will be but short, and, after a day or two, the patient resumes his employments. If the case is complicated with visceral disease, it becomes tedious and dangerous according to the severity and obstinacy of the organic affection, and the stage at which it is noticed and treated. Affections of various organs, most frequently of the liver and spleen, may escape notice for a long time, becoming obstinate in proportion to their continuance.

Having given a general description of fever, as it occurs in these localities, I shall proceed to point out its various forms as they have fallen under my notice, and its complications as far as I have been able to detect them.

These forms differ in respect to the duration of the paroxysms, and the nature of the interval between them, and are named, accordingly, intermittent, remittent, and, in case of the absence of any appreciable remission, continued. They may also be classed with reference to their organic affections, with which fever is connected, as complicated and simple, and, with reference to certain dangerous symptoms or peculiarities (independent of organic disease) malignant and benign.

These classifications appear to me to embrace the most important peculiarities of fever. Of course these specifications will not be understood to refer to as many different forms of fever, but, as the several classifications are based on different series of symptoms, one attack may be classed under three different heads at the same time.

The intermittent is the most common and usually the mildest form of fever. In many cases the first stage is slight and rarely noticed by the patient, though this is by no means a universal rule. The chill or the nervous symptoms that substitute it are strongly developed, and, in cases of malignity, the shock to the system is very great, as will be described under the head of "malignant fever." The chill in intermittent cases continues longer than in other forms, and does not seem to bear any relation to the force of the subsequent fever. This stage does not often continue more than two hours, often it is less than one hour, although, in some severe cases, there is a mixture of chill and fever (heat), continuing several hours, as before mentioned.

The termination of the chill and access of the hot stage is as described in the foregoing general remarks. Ordinarily the fever is high, the pulse is strong, full, and frequent, usually exceeding one hundred beats in a minute. The headache is often violent, nausea and thirst urgent, pain in back and limbs continuing from the cold stage, subsiding, however, before this stage is at an end. The length of this stage is usually short, not generally exceeding six hours, often less, although cases occur of much greater length. In uncomplicated fever this is rare.

As the fourth or sweating state approaches, all the violent symptoms subside, with a full flow of perspiration, and after a few hours, especially after sleep, the patient feels restored. In many cases, however, the intermission is imperfect, resembling a remission, but, under treatment adapted to the prevention of the succeeding paroxysm, the patient soon entirely recovers.

This description may be the entire history of the disease. Under treatment this is often the case, but rarely without. The intermission, of which the sweating stage is the commencement, is ordinarily of short duration. The same series of chill, fever, and sweating is repeated, at the end of twenty-four or forty-eight hours from the beginning of the first paroxysm. Without the interference of the physician, however, there is danger of an arrest of the changes that complete the circle, and, in malignant or complicated cases, it often happens that there is no second period of resolution, but the hot stage continues for an indefinite time, or perhaps to a fatal termination.

Occasionally, during the second paroxysm, if no *efficient treatment has been instituted during the first intermission*, the ordinary interval is very imperfect, and the third and fourth chills return within a short time, making, as I have seen, three paroxysms in twenty-four hours. Such prove obstinate and often become continued. These cases have, as far as I have observed, followed *first* paroxysms of *simple, light* fever, in no way differing from those previously experienced by the same patients, which were uniformly stopped on the first day.

There is another noticeable variation of type, which in my experience has been obstinate in its course, and one case resisted treatment until the fourteenth day, that is, until the seventh paroxysm. It was a *double tertian* in which the second paroxysm began twelve hours after the first, and the interval between the second and third thirty-six hours, that is, the first coming on at sunset, the second follows at the succeeding sunrise, while the third attacks at sunset of the following day. The only cases of the kind that I have noticed have followed remitting fever at the end of a week, observing the hebdomadal period.

The remittent form of fever commences with a longer and more sensibly developed formative stage. The patient frequently complains of poor appetite, restlessness, giddiness, disinclination to labor with body or mind, with other manifestations of disordered vital actions, as described in the preceding general remarks. In those persons who recognize these appearances and use the appropriate remedies, the threatened attack is often prevented, but in the natural course of the disease the second stage follows the first after a short interval. The chill is often undeveloped, and a slight sense of cold, with distress in head, back, limbs, with nausea, takes its place. These soon pass into the hot stage. As the second stage is not so definitely marked as the ordinary intermittents (this is not uniformly the case), so we do not find the change to the third stage as prompt and definite. The pulse gradually rises in force and frequency, the heat of body increases, and headache and nausea become urgent; the furred tongue and highly colored urine follow. This stage usually continues longer in these than in the preceding form, subsiding, or rather abating within twenty-four hours (often eighteen hours) from the commencement of the chill.

At this stage of the disease, there is often much time lost in waiting for a perfect intermission, or in attempting to procure it by various means, other than those designed to prevent another exacerbation. The remission, as the name implies, is often marked by only a slight decline of pulse and an amelioration of the distress and heat of fever. There is often but little perspiration and an unimportant change in the color of urine.

At or before the hour of "invasion" of the previous day, this remission, with a slight chill (perhaps without), passes into a hot stage, which in turn remits as before. If left without treatment, however, it encroaches on the succeeding remission, and again the paroxysm anticipates its time at the next exacerbation. This can be prevented only by vigorous treatment during the first and second remissions.

Though in ordinary cases the arterial excitement does not rise as high as in the early paroxyms of intermittents, and for this reason are not looked upon by many as very formidable, yet careful observation will show, that, in an uninterrupted remittent of four or five days' standing, the pulse becomes very frequent, and skin hot and dry, and cerebral pain very distressing. Under these circumstances, the fever becomes continued, or the patient suddenly dies from the violence of the disease, without apparent visceral complications or even the malignant symptoms (that often prove fatal) hereafter to be described.

Remittents follow upon neglected intermittents, or those that have become complicated with organic disease. During the second and third paroxysms, these difficulties very frequently arise, and greatly aggravate the fever.

The continued form of fever has been rare within the range of my observation, except as the termination of the other forms; but I have met with a *few well marked cases.* The first stage is similar to that of the intermittent form, the premonitions evident, the chill slight, sometimes entirely wanting. The period of excitement continues an indefinite period without appreciable remission. It has not occurred to me to meet with any cases of more than five days' duration. At this time, the fever has begun to subside, without a marked crisis. The hot stage has been similar to that of the remittent. There has, however, always been in my cases a remarkable irritability of stomach, in some cases simulating gastritis; but these difficulties have yielded with the fever. I have seen but one fatal case. In this, the patient died on the fifth day, from the violence of the disease, without apparent organic lesion of importance. In this case, there was no treatment instituted until near death. This peculiar form seems, in some cases, to depend upon excitability of constitution. Persons susceptible to the common climatorial influences, suffering often from the debilitating influences of the climate, and great nervous irritability, seem to suffer in this way, though generally this fever is not more violent than other forms.

I have already spoken of some complications to which fever is liable, which greatly aggravate it, always protracting it, and, if undetected, often rendering it fatal. I have given these cases a separate place and consideration, not because they belong to a distinct form of fever, being embraced in the foregoing divisions, but that they may be the more noticed, as I am satisfied that there has been much suffering and loss of life dependent upon organic disease, which from its insidious nature has not been suspected.

These complications are inflammatory and congestive. The most frequent are affections of liver and spleen, more rarely of the stomach and bowels. In whites, the lungs are very rarely affected. The brain is often the root of congestion and inflammation, although I do not consider these difficult of detection. Congestion and sub-acute inflammation of the liver are often undetected by pressure; the patient feels no pain, but it may easily be known by the dullness on percussion. There is often no tenderness in the part; either because there is no soreness connected with the disease, or because the tender part is out of reach of pressure. Percussion not only detects dullness, but often sensibility. The same remarks may be made in regard to the spleen, which is even more frequently subject to *chronic* enlargement, and is constantly liable under these circumstances to excite fever. No person is perfectly safe, with these enlargements, on this coast.

In cases of fever, in which the excitement returns after the second intermission (or remission), the appropriate treatment having been instituted, I consider there is reason for suspecting organic disease. It may be simple congestion, or, more probably, inflammation. In case of chronic enlargements of spleen or liver, any exciting cause of fever—as exposure in the sun, loss of sleep, excess in eating or drinking, or the return of the day in the week on which the patient has previously been attacked—will rekindle the ase. In these cases there is always a necessity for the patient to return to a cold climate, at least for a time. The patient may recover from many attacks, and be perfectly comfortable and apparently well for a time, yet the difficulty is sure to return if the local disease remains. The attacks of fever eventually become malignant, and the patient dies.

That class of cases in which the inflammation follows the onset of fever proceeds very insidiously, as was before mentioned, often perplexing the physician and baffling his skill if the real course of disease escapes notice; which it is likely to do, unless particular search is made for it. Under this influence, the periodic attacks degenerate into continued fever. Therefore, on the first appearance of obstinacy, a thorough *manual* examination should be made. The *subjective signs* are of little comparative value.

Splenitis is much more easily detected than hepatitis, as the organ becomes larger, harder, and more irregular in shape, frequently presenting sharp angles, and yet, strangely, this has escaped notice for a long time. It has, even in some cases which have come under my care, so far enlarged as to interfere with the movements of the heart, and then for the first gained the attention of the patients, who have supposed that they suffered from cardiac disease.

I may here remark that this chronic enlargement of spleen is not peculiar to whites on this coast, though more troublesome and dangerous to them than to natives. The native children often suffer from it. The abdomen is greatly enlarged by the viscus, and its outlines are occasionally visible through its walls. The same is true of grown persons, in some localities and under some circumstances. I have noticed that pregnant women (natives) have enlarged spleens, particularly in the puerperal state, immediately after delivery. Some have been brought to me in this condition, which, to the natives, seemed hopeless. Such, however, are extreme cases. Ordinarily, the disease readily yields to treatment; often, no doubt, subside spontaneously.

Cerebral inflammation, and congestion are not unfrequent complications of fever. The pain of inflammation may be neglected on the supposition that it is only the effect of fever. It is not easy to draw a line of distinction between the pain of incipient inflammation and that of fever; but the pulse affords the best datum. If the pulse remains full, strong, and frequent after the time for the remission, or if it rise with the pain, there is good reason for suspecting inflammation. In all cases in which the headache has resisted the ordinary palliatives, and has continued into the second intermission, I have not hesitated to use active remedies, particularly in those cases in which unnatural sounds have been heard by the patient.

Malignant Fever. The term malignant is here applied to certain forms of remittent and intermittent fevers, that are characterized by several dangerous symptoms, which, on account of their severity, demand a separate consideration. This form of fever is by no means regular in its mode of attack. It may begin as a benign intermittent, showing its peculiar character only in the second paroxysm, or may show its nature at the onset. Occasionally, the patient is pale and feeble for days before the attack, having various other premonitory symptoms as described above. In several instances it has, under my observation, followed attacks of benign intermittent, after the interval of a *week*.

At the commencement, the patient's skin assumes a yellow color; the face a haggard appearance. It seems shriveled and pointed even before the chill comes on. Immediately after the chill (perhaps before it has passed off), the urine, which is usually free, becomes red or black. The stomach next becomes irritable, ejecting yellowish fluid, with the ingesta. The bowels are often free, and move with yellow or red dejections.

These symptoms may not be all present or well marked, at first, but usually appear to a greater or less extent during some part of the paroxysm. The patient is usually stupid, but showing signs of great distress—often moans and turns from side to side. These symptoms constitute the first paroxysm. There may be, however, a previous mild paroxysm, which is not here considered. After a few hours there is an intermission, in which there may be a decided amelioration of all the symptoms, but the yellowness of skin and red urine do not disappear entirely.

At the end of twenty-four hours (as I have only seen this form in quotidian type), the disease returns with augmented force. The patient is tortured with thirst, but vomits all ingesta; bowels become irritable, so as to reject all injections per rectum, the urine assumes a darker hue, often foams as it is passed into the chamber, the alvine evacuations become bloody and the ejections from the stomach become green and finally black; and the mental obtuseness increases with the other fatal appearances.

Toward the close of the second day there may be an attempt at an intermission, which, however, in cases without treatment, has always, as far as I know, failed. During the third day the patient becomes insensible, the pulse irregular, the breathing slow, often less than sixteen respirations in a minute, which afterwards degenerates into a deep sigh which is repeated at an interval of several seconds. In another class of cases, the patient retains his senses much longer, and the respiration remains nearly natural for a much longer time, but the surface in these cases seems to be much sooner paralyzed, becoming cold and cadaverous to the touch, the stomach *seeming* to be in the same condition. The pulse becomes feeble and rapid, until it ceases entirely at the wrists, which happens several hours before death. This often takes place within sixty hours. I have not seen a third intermission in a fatal case, for although the patient may live until the fourth or fifth day, all distinction of stages is lost.

The peculiar symptoms of this fever, by which it may frequently be detected very early in its course, are yellow skin, red or black urine, together with vomiting of yellow fluids, and intense restlessness or stupor, frequent chills following each other at six or eight hours interval, or one violent chill followed by stupor or violent pain in the head.

These observations refer to the disease unchecked by treatment. If, however, the appropriate treatment is early and vigorously used, the second paroxysm may be ameliorated or prevented, and the disease terminated on the third day.

In all cases of malignant fever, any inflammatory complication will aggravate the disease. Most of the fatal cases that I have seen have been of this description. Some of the cases have suffered under old splenitis or hepatitis, or it had been found too late, as recent inflammation had sprung up during the course of the disease.

Causes of Fever. Without dispute, the great exciting cause of this fever is found in the constitution of the atmosphere. It is a *malarious* fever. The peculiar depraved condition of the air on which this propensity to fever in Europeans depends, I am unable to determine, at least I am not satisfied with any explanation I have seen or can assign. The heat of climate is not excessive. The thermometer, in all localities along this part of the coast from which I have been able to obtain observations, has ranged from 65° to 90° (F.); a degree of heat less than in many salubrious localities in other parts of the world. Of the comparative *moisture* of our climate, I cannot make any just estimate, as I have had no opportunity to compare my hygrometric observations with others. This, however, I may hope to do at a future time. My belief is, that we have, at a short distance inland, as dry an atmosphere as the heat of the climate will allow.

We find but little mould and decay in places well protected from the sea breeze. The prodigious production of fungi in various localities on this coast, as *described in books*, I have never seen or heard of *here.*

The predisposing causes of fever are numerous. Among the most important are sedentary habits; in which many are led to indulge by the debilitating influence of the climate. All students and writers, who do not take much active exercise in the open air, are subject to fever. Many ladies, on various parts of the coast, living in inactivity, suffer from fever. Temperament is a predisposing cause. Persons of a nervous temperament, and those of light hair and fair complexion, or those of dark complexion but of strumous habit, are peculiarly susceptible to the influences of this climate. Licentious indulgence, for which degraded Europeans find ample scope on this coast, predisposes to fever in a large number of cases. Intemperance *indirectly* subjects a person to the malarious influence. Though the first effect of spirits is to protect from atmospheric influences, yet, after this effect has passed off, the person is more liable to contract fever than a temperate man, and this is likely to be more violent. Sailors who remain on shore over night, in a state of intoxication, are usually attacked with fever, although sober men may frequently do so with impunity. From the best information I can obtain, I am led to suppose that the white soldiers, formerly used (or rather lost) on this coast, fell a sacrifice to habits of intemperance.

In females, that condition of system attendant upon the menstrual flux is a strong predisposing cause. Many females are attacked with fever at their monthly periods. In case of uterine disease the predisposition is still stronger. One attack of fever predisposes to another. The sooner a person is attacked, after his arrival on the coast, the more frequently and severely is he likely to be attacked. As fever follows the hebdomadal period in its return, the recurrence of every seventh day after any attack will predispose to fever. The intervals at which different persons are attacked are various. Some suffer weekly, some bi-weekly, some tri-weekly, or monthly. The most common interval within my range of observations has been fourteen days. The bracing air on the coast often produces fever in those accustomed to the atmosphere of the interior. A change of place is a cause of fever in many: even in persons who go from an insalubrious to a more favorable climate. This is often the case with persons going to sea; they often suffer from one or two severe attacks of fever.

Besides a propensity to fever, on a temporary change of residence, I have noticed that particular persons enjoy much better health, in localities considered very insalubrious, than in those that are inhabited with safety by large communities, and, on return to those localities, they have regained the health that they have lost in these *apparently* salubrious localities. A long residence in a malarious region powerfully predisposes to fever. This effect is produced indirectly by causing visceral disease; in other cases, by producing the debility common in hot climates; but, beside these effects, a long residence begets a proneness to fever, in sound and strong men. Hence the necessity of occasional retreats to cool and salubrious countries.

Treatment. The treatment that I have resorted to most successfully in mild fever is very simple. It is entirely prophylactic. It is designed to prevent the attack, or rather to prevent its full development if detected early, or the repetition, if the paroxysm is fully formed. During the forming stage, I have given quinine in sufficient quantities to bring the system entirely under its influence before the chill comes on. This is possible in many cases, though frequently patients do not detect the premonitions of disease; in this case, we must wait until the intermission. In numerous cases, however, in which patients have been willing to attend to their own feelings, and employ remedies faithfully when they have felt the approach of fever, I have had the gratification of seeing them enjoy perfect immunity from this species of disease, though previously suffering from frequent attacks.

The same success has attended the use of remedies in cases in which fever returns at fixed intervals. The patient takes quinine just before the time of the expected attack. It is safer to commence the use of the remedy the day before, so as to anticipate the disease. This use should be continued every seventh day for a long time; the quinine should be taken in sufficient quantities to be slightly felt by the patient. The peculiar sensations produced by this remedy are singing about the ears, or whistling, or dashing sounds accompanied with deafness. This, however, is characteristic; it *seems* to be produced by filling the ears with some soft substance. It is not a simple loss of hearing. Ten grains in a day is ordinarily sufficient. The quantity required in health is less than in the best intermissions. In ordinary intermittents, it is not designed to cure the paroxysm, but to mitigate its violence, if severe, and prevent its return. To effect this with certainty, the quinine should be given soon after the hot stage has begun to subside. Though this is not customary in many countries, the treatment being delayed until near the end of the intermission, I consider it necessary here for several reasons: 1st. The intermission may be short, the paroxysm anticipating its hour on the succeeding day. 2nd. An irregular chill may set in. 3rd. Though a person may have been subject to tertians only, he can not be sure that the same type will be preserved. The fever is liable to become quotidian on any new attack.

For these reasons, I have not ventured to delay the treatment long after the commencement of the intermission. Besides, it occasionally happens that there is much difficulty in bringing the system under the influence of the remedy, and, consequently, time is needed. It is far better to begin too soon than too late, as the only difficulty arising from this course is, the unpleasant sensations produced during the time. It is the aim of the physician to pre-occupy the system with quinine. In this way, the fever will either be unable to rise, or be greatly mitigated in force. These remarks will apply to remittents as well as intermittents. Greater care is required to observe the first decline of the fever, and make use of vigorous treatment. If there is no complication, the same remedy is sufficient.

In administering quinine, I have been accustomed to give six grains every hour until its peculiar effects were produced. This usually takes place at the end of three hours—often sooner. After this, very small doses (two or three grains), once in two hours, will keep up the effect until the time of the expected paroxysm has passed. The medicine should be so administered as to bring the system under its influence three hours before the expected attack. If it is not convenient to administer the medicine in small doses frequently, ten grains may be given at the beginning of the intermission, and repeated at the end of four or five hours afterwards, always repeating smaller doses to maintain the effect of the remedy. In most cases, twenty-five grains given in time will produce all the effect desired, will prevent the return of the chill, but, in some conditions of the system, twice that quantity is necessary. As has before been said, the effect upon the system is the only guide in the administration. If a large quantity is demanded to produce "quininism," there is, as I believe, the greater necessity for the full action of the medicine. As to any theoretical objections to the use of fifty or sixty grains in one day on remission, my experience in my own person, as well as in numerous patients, proves them to be absolutely imaginary. I have never seen a case prove fatal or even troublesome, for any length of time, that was treated with decided doses of quinine. All the deaths that have occurred within my observation, have been in cases in which small doses of quinine have been administered, or in persons who have been unable to retain this remedy in any doses.

Hitherto I have considered the use of quinine as a prophylactic, given in the intervals or before the actual onset of disease. I have used the same remedy successfully to subvert fever. In several cases, violent *continued* fever has yielded under the constant use of quinine. The amount required to affect the system is greater during fever than in its absence, but a persevering use of the remedy will produce its characteristic effects, and the disease will eventually yield. The resolution of the fever is not, however, so sudden or entire as the spontaneous resolutions of the paroxysmal forms. As it regards the time at which the quinine may properly be administered, in cases that show no disposition to remit, I think it is not advisable to delay more than eighteen hours from the time of invasion. If the fever persists beyond this without an attempt at remission, I give the quinine to produce one. I use quinine in this manner from a conviction that it is not a stimulant.

It often depresses the pulse and produces free perspiration. It has never occurred to me to see any increase of pulse either in force or frequency from large doses—on the contrary I have seen decided diminutions of frequency in various cases in which the largest doses were administered. In a healthy person, largely under its influence, the pulse is slow, full, and soft, the skin cool, soft, and moist.

In the administration of quinine, there is often much difficulty in so covering the taste as to secure its retention in the stomach. Many persons conceive a great repugnance to it after frequently taking it. It often causes nausea, and is sure to increase it if pre-existing. Though a person may take it in health without difficulty, on the attack of fever the stomach rebels. The difficulty depends upon the bitterness, or, subsequently, upon the action of the medicine upon the stomach. A variety of expedients have been used to introduce the quinine into the system. It has been exhibited by the mouth, concealed in various menstrua; it has been given in injections, per rectum, and by frictions to the skin. It has been combined in form of pill with various substances, as morphine, or crude opium, oil of pepper, or camphor. These are designed to prevent subsequent nausea, and the pillular form obviates the bitter taste. I have usually found this the most available form, the only objection being its tardiness in operation. If, therefore, the time is limited, it is not safe to trust the pills. If they are made of some very soluble menstruum, they may be used in ordinary cases.

I have found a little treacle, or paste made of flour and cold water, very soluble. They, however, degenerate by age. Quinine pills made with an aqueous solution of gum Arabic, soon become as insoluble as marble; the "syrup of gum" is but little better than the solution. I have seen pills of this kind discharged, per anum, on the fourth day, unchanged. Quinine given suspended in coffee or tea, loses most of its nauseous taste, and does not nauseate afterwards. Some can take it in wine, and others in the bitter tinctures, the gentian and cinchona substituting their own bitterness for that of the quinine. The aqueous solution (or suspension), if tolerable, is the most prompt and valuable mode of administration; some acid united with it is thought to hasten its action; it doubtless increases the bitterness. The administration by enema, with starch and laudanum, is a very convenient mode, and is a very good resort in case the patient cannot swallow the medicine. There must be an addition of one-third or fourth, as it does not operate as powerfully as if given by the stomach. Some use acid, but it irritates the bowels, thereby causing its own discharge.

Of all other anti-periodic remedies recommended by authors, I have found none worthy of confidence, except the arsenite of potash, which has done good service as an adjuvant of quinine. I have prescribed the tincture, wine and infusion of cinchona, as tonics and prophylactics, to be taken constantly for months, and have seen them produce very good effects. The treatment to be used during the chill consists of stimulants, internal and external, and applications of heat. The patient usually covers himself in bed, and finds some comfort in the application of heated irons or stones, or bottles of hot water.

The stimulating frictions used are mustard or pepper. The first is frequently applied in poultices, to large surfaces on the back, arms, and legs, and often proves very beneficial in equalizing the circulation and restoring the temperature. The fresh peppers, if actively applied, produce much burning, which usually cuts short the chill, and seems to lessen the succeeding fever also. It seems to check the whole train of morbid phenomena; the pain in back and limbs quietly subsides with the general distress accompanying it. The great objection to the use of the peppers is, the difficulty of controlling or regulating its effects. The patient often suffers severely, and it is difficult to assuage the pain. In some cases it has been necessary to use the cold bath, but such is the effect of the stimulations of the pepper, that the chill does not return, even in the cold water. The vinegar, or tincture of the peppers, may be used more safely —they do not produce such violent effects.

The only treatment, during the hot stage of simple fever, is diluents, as lemonade, and other acid and cold drinks. If the urine is scanty and very high colored, the spirits of nitre may be given in water or weak tea. In case of costiveness, this is the appropriate stage for the exhibition of cathartics, which should be given so as to act from four to six hours after the commencement of the fever. Given in this way they not only fulfill their primary indication, but they assist in bringing about the stage of resolution, if they operate at the time at which the hot stage would naturally pass off. The best cathartics appear to be the resinous, in combination with calomel. The "compound cathartic pill" is very useful and easy of operation. I, however, have used a similar combination with hyoscyamus, which is often needed to prevent the irritating effects of the other remedies.

The constant and indiscriminate use of cathartics in fever, cannot be other than injurious. I have seen much irritation of the bowels and nervous depression arise from their use in the early stages of fever, and general prostration in the later stages. I do not believe it is best to give cathartics, simply because a patient has fever, but only for the relief of some unfavorable symptom, or to correct some deranged function, or act upon a diseased organ. In complicated cases, they are necessary, and must be used; but if the fever is simple and benign, and the bowels open, the patient will be quite as safe and much more comfortable without. In case of continued, or obstinate remittent fevers, I formerly gave calomel in small "alterative" doses, and with some success; but I was often disappointed in the result, though ptyalism was produced, and I found the operation of the medicine more prostrating, and convalescence more tedious, than in the exclusive quinine treatment. In great heat of body and dry skin, I have used the cold bath; or, if the patient could not bear this, the wet sheet, or sponging with cold water. The headache is frequently relieved by the application of cold water. If the fever subsides while the pain remains, mustard to the neck and back often entirely relieves it. Morphine, under the same circumstances, also in case much nervous excitability attends the pain, will be found very useful. The infallible remedy, however, is leeches. In all cases (when other means have failed), I have found them entirely successful. Cupping the temples, though less convenient, is a substitute for leeching. Nausea, if urgent and continued, may be relieved by effervescing draughts, or mustard to the epigastrium, or, if these fail, by some preparation of opium; the "black drop," or opium pill, are perhaps most efficient. Hydrocyanic acid is sometimes very efficient. It has been administered in connection with quinine, with happy effects.

In complicated fever, an energetic course of treatment must be adopted.

If the inflammation is active and recent, either of liver, spleen, bowels, or stomach, leeches should be freely applied, or, in the absence of these, cups. In connection with these means; calomel, in small doses, is very useful. Its use should be carried to slight ptyalism, unless the urgency of the symptoms abates. In splenitis of a violent grade, I have seen all pain and heat abate under the use of leeches alone. I have never found it necessary to use mercurials largely in this disease. Blisters have followed the primary treatment, that of abstraction of blood, and completed the cure. Cathartics are of more value in splenitis than in the other inflammations just mentioned. In one severe case of gastritis, for which I was unable to obtain leeches, I trusted entirely to mercurials; on the commencement of ptyalism, which took place very promptly, the pain and nausea of the disease suddenly subsided. So remarkable was the coincidence, that the patient, unasked, pointed it out.

In hepatitis, blisters may be used early, as the inflammation soon becomes sub-acute; they may be applied the second or third day after the leeches, the bites being covered with bits of adhesive plaster, or, if the "fluid" is used, it may be applied around them. They are very useful in subduing induration, and in chronic cases, vesication is the great local remedy, to be used in connection with mercurials. All such cases, however, should be actively treated after the fever is subdued, its return being guarded against by the timely use of quinine. In the treatment of the complicating local disease, the fever is not to be forgotten, but in the remissions is to be treated with quinine.

These cases are tedious, being protracted by the local difficulty. In cerebral complication, I have always used leeches with success. I have never, in whites, been obliged to resort to general depletion. The leeches have been followed with cathartics. Under this treatment all my cases have yielded. Quinine, with morphine, in the remissions (which are often but slight), gradually subdue the fever.

In malignant fever, the treatment must be prompt and energetic, as the case is almost certain to prove fatal if it goes on to the third paroxysm.

If there were, in all cases, a certainty of gaining a perfect intermission, after the first paroxysm, quinine might be depended upon as a safe remedy, as I believe the disease is controllable, when there is an opportunity of bringing the system entirely under the influence of this remedy; but, as the intermission is often imperfect, I have thought it safer to give calomel during the first paroxysm. I have given 20 grains at a single dose as a cathartic. At the first operation, the urine has notably changed in color, and other symptoms have been mitigated in severity.

The system should then be brought entirely under the influence of quinine, as early in the intermission as possible. The same treatment should be used in the second intermission. If the second paroxysm is severe, the mercurials can again be used, but in less quantity, or the quinine may be continued in connection with it. Usually this paroxysm will be light, and the fever lose its malignant form.

It may then be treated on the principles before laid down, although this treatment should be continued for some days after the cessation of fever, to guard against a relapse.

If hepatic, or other inflammation, complicates these cases, the treatment is rendered more difficult, and the danger is greater, but the patient's condition is by no means hopeless.

Diet.—During the intermissions, I have always restricted patients to light food, as broths, gruels and farinaceous articles; the appetite does not generally crave more. The use of quinine tends to take away appetite for the time.

To me, the food during convalescence has never been an object of great care. The system is seldom greatly reduced in strength and flesh during an attack of fever, consequently the patient soon returns to his ordinary pursuits. Under these circumstances, I have not hesitated to permit him to eat moderately of such food as his appetite has craved. I have seen no injury accrue from such a course.

In case organic disease remain, I have enjoined abstinence from all stimulating food, at least for a time.

ART. II.—*Anesthesia in Surgery. How its dangers are to be avoided.* By FREDERICK D. LENTE, M.D., Surgeon to West Point Foundry.

BUT a few years since, the astonishing and grateful information was promulgated from Boston to the medical profession and to the world, of the discovery of an agent which was to rob surgery of its terrors, and sickness, to some extent, of its pangs. An extensive trial, promptly accorded to the agent, by surgeons, exceeded their most sanguine expectations; and the anesthetic, sulphuric ether, was, with some few exceptions, put into very general requisition, not only by *surgeons*, in almost all operations, great and small, but by dentists, to some extent, by accoucheurs, and even by the unprofessional, in some cases to allay pain, in others merely to procure the pleasure of an agreeable and speedy intoxication. The discovery of another anesthetic, more speedy and convenient in its application, cheaper, and less disagreeable in its immediate effects, was at this time heralded across the water, soon almost entirely superseded the American anesthetic, and was applied to all the various purposes for which its predecessor had been employed. So far, although anesthesia had been employed without the least fear, and with but little precaution by those skilled and unskilled in its use, no untoward result had occurred or was reported. But, very soon, a death occurred from *chloroform*, then another and another in quick succession. This led to its more careful and restricted use by some surgeons, to its total abandonment by others, but the general mass of surgeons and physicians still continued its use, with more regard, however, to its now admitted danger, and, of course, with more caution in its administration; while the public generally took the hint, and were not so ready to demand anesthesia of the surgeon and dentist for every trivial pain or operation. This checked the increasing mortality from its use; and, for some time, only a scattering case, here and there, in this country and in Europe, appeared occasionally in the journals, the cases generally occurring in public practice.

This state of affairs has continued up to the present time; the individual cases of fatal anesthesia occurring now and then, in the various journals, have gradually added up to a rather alarming sum total. Occasionally, two or three, happening in quick succession, put the profession more on the *qui vive*, and a suspicion is now and then hinted that the aggregate of fatal cases made known to the public does not include an unestimated and perhaps larger number which have happened in private practice, and have been, for obvious reasons, concealed from public scrutiny; so that there is, at this time, an evidently growing distrust of the agent, both in and out of the medical profession, which may soon threaten to banish this "great boon of humanity" from surgery altogether.

In some parts of the continent of Europe, it is stated that the use of anesthetics has been recently regulated by public authority; that chloroform has been altogether abolished in the Massachusetts General Hospital, by its managers; and in other hospitals and public institutions, in Philadelphia and elsewhere, the employment of anesthesia is falling into comparative disuse. We need only a few prosecutions of surgeons—by some of the indignant friends of those deceased from the alleged effects of chloroform, similar to those suits which are now and then instituted for other so-called malpractices in surgery, and which we may look for at any time—to complete the overthrow of chloroform, as well as all the anesthetic agents. A case of this kind was very near happening in the city of New York, as long ago as five years, and with which we became conversant by being acquainted with the party most interested, the husband of the patient, who, laboring under puerperal mania, died suddenly, soon after the administration of chloroform (alleged in inordinate quantity) by her medical attendant. The affidavits of the witnesses were all made and sworn to, and the case on the point of being confided to the hands of a lawyer. It is the object of this paper to ask if there be not some means of arresting this tendency, and of restoring the use of anesthesia, in surgical practice, to the original confidence of the profession and the public, and, at the same time, to suggest a remedy, and a very simple one, too, for this object.

Upon its becoming generally known to and admitted by the profession, that death might result from even the appropriate and cautious use of chloroform, other more safe anesthetic agents were sought for, and numerous substitutes, not necessary to be alluded to here, were introduced and tried, with but partial success. Local anesthesia, both by chloroform vapor and by congelation, as in Mr. Arnott's plan, has also been advised, but so far has not gained much favor with surgeons; so that it appears that *chloroform* is still the agent almost exclusively employed by the general mass of the profession, especially in private practice.*

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* Chloric ether, recommended and employed by some as a safer agent than chloroform, has been discovered by recent experiments, by Mr. Donovan, of Dublin, to be either Dutch oil or chloroform in an insoluble state, and he asserts that there is no such compound as *chloric ether*.

So far as we are acquainted with the history of this subject, it was at the New York Hospital alone that the most obvious and simple remedy for the dangers of chloroform was applied, namely, a resort to the original anesthetic of Messrs. Jackson and Morton, of Boston, sulphuric ether. This had been tried in a great number of cases in that institution, and in hundreds of others elsewhere, and without any untoward result, and was only given up for chloroform, as being less convenient and speedy in its application. It was most natural, then, that, after the occurrence of the first fatal case from the latter, its more safe and equally effectual relative should be substituted for it. *Sulphuric ether* has continued to be the principal anesthetic agent in that Hospital, since the period alluded to, some six or seven years ago, and we are not aware that any trouble has since been experienced there in its administration. During our connection with the Hospital, we were in the habit of using it, and seeing it used almost daily, in every variety of surgical cases; and, in private practice and among the patients of the foundry, we are still using it, to the exclusion of any other anesthetic,* and we always find it fully as effectual as chloroform, though not so speedy and convenient, never having met with but one case that resisted its anesthetic influence; and we are fully persuaded that the same result would have happened in that case with chloroform, as the patient was an exceedingly nervous and hysterical female, and was thrown into a violent fit of hysteria as soon as the partial influence of the ether was felt. As the operation to be performed was of small moment, it was considered prudent not to persevere with the ether, or to try chloroform; and we are quite sure that, up to the present time, *no instance of fatal result has been recorded from the use of sulphuric ether.* It is possible that, were this to be used as widely as chloroform has been, some fatal cases might occur, but we think not, for the reason that, with it, *it is impossible to induce full anesthesia so rapidly and suddenly* as with its more dangerous competitor, however freely it may be applied, and we think the only difference in the danger between the two lies in the fact of the suddenness of the effect of the chloroform, an effect occurring sometimes as well from a small as a large quantity,* and not generally to be foreseen or guarded against, even by those most skilled in its use. The manner of administering sulphuric ether is somewhat different from that usually employed with chloroform. To be effective within a reasonably short time, it must be given rapidly, and the access of air cut off as much as possible, the reverse of what is safe with the other agent. The only effective inhaler we have used, or seen used, is a large cup-shaped sponge, sufficient to cover completely the nose and mouth, and covered with a thick folded napkin to prevent undue evaporation as far as possible —there will always necessarily be a sufficient supply of air through the sponge, in spite of all the coverings; into the sponge about an ounce of ether is poured, and, after holding it at a short distance from the face, for the space of half a minute or so, it should be held close to the mouth and nose, and kept there until the full effect is produced, generally two or three minutes. Owing to the rapidity of the evaporation of the ether, it requires to be more frequently renewed than the chloroform; the more abundant the supply in the beginning, the more rapidly will the effect be secured, and the smaller the quantity of the material actually consumed. Generally, we have found two to three ounces sufficient to induce full anesthesia, but if the operation is at all prolonged, sometimes a pint and a half, or it may be a quart, is required; seldom this extreme amount, however. One disadvantage which the ether labors under, and which does not apply to chloroform, is its great inflammability, which only renders caution necessary, when operating under its influence by candle-light; but all danger may be readily guarded against, in this respect, by a little care.

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* It is but just to mention, that we have been compelled to make two or three exceptions to this rule in practice, namely, in cases of obstetrical operations, where we had no assistance save that of old women, and where necessity compelled the use of the most speedy and convenient agent, to meet the urgency of the cases.

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* Cases of death from it are recorded where it was said only ten or fifteen minims were used; whereas, an ounce or more may oftentimes be used with impunity.

Art. III.—*On the Early Application of Nitrate of Silver to the Fauces, in the Treatment of Scarlatina.* By E. Macfarlan, M. D., Williamsburg, N. Y.

The treatment of Scarlatina is as yet by no means well established, and admits of much improvement.

The more severe forms, in which the throat becomes largely implicated, are what I wish more particularly to treat of in this article. Practitioners generally, and all authors, inculcate the idea that blood-letting, general and local, is necessary; at least in many cases in which the inflammation of the fauces and tonsils is severe. Cathartics also are advised.

The plan of treatment that has proved eminently successful in my hands, is one to which I would call the attention of the profession, and which is at least worthy of trial.

From the first, my patients use the warm bath. I continue these for several days, generally till the eruption is on the decline. The throat, as is well known, is, from the commencement of the disease, much involved. By most practitioners, in fact I may say all, no local internal applications are made until the tonsils are much swollen, and even suppuration and ulceration have taken place. I never wait for this state of things; my plan, and the one I believe to be in accordance with sound reason, is to apply a strong solution of argent. nitrat. to the fauces and tonsils at the onset. In every instance, I have succeeded in cutting short the inflammation. In other words, I treat this condition of the throat in scarlatina just as I do an ordinary case of tonsilitis. It was the analogy that led me to adopt this mode of practice. Where the child is old enough to use gargles, I order a simple gargle of bor., soda and alumen sulph. By this mode of practice we prevent suppuration, and ulceration of the tonsils. I give quinine internally when there are signs of debility. Broths, farina, etc., etc. I never use purgatives unless there is constipation. Cold drinks are always grateful to the patient during the fever. In my opinion, they may be allowed in almost every case.

In conclusion, I would call attention to the anticipatory treatment here recommended. I am aware that nitrate of silver has for some time been used in the last stage of scarlatina, or, in other words, when the fauces and tonsils are so much swollen as to render suffocation imminent; and ulceration soon appearing, increases the patient's distress. As above stated, by the early use of the nitrate the inflammation is cut short, and thereby the train of sufferings that would otherwise follow is avoided. I am well satisfied from observation, that if this method of treating scarlatina should become general, there will be far less fatal cases than at present.

ART. IV.—*Epidemic Cholera as it appeared at the Franklin St. Hospital, during the Summer of* 1854. By J. H. VANDERVEER, M.D. Physician to the Franklin St. Cholera Hospital.

THE disease upon which the following remarks are offered, although one of remote origin, is still shrouded in mystery, and presents a formidable aspect to physicians of modern times.

It is not proposed that these observations should be considered as a scientific treatise on cholera, but simply a plain and brief statement of the cause, preventive, and curative means considered and pursued at the Franklin St. Hospital, during the epidemic of 1854.

The hospital in Franklin St. was opened to receive patients, June 25th, 1854, (although there came under my observation many cases previous to that date, one as early as June 3rd). It was closed Sept. 6th, the last patients being received on August 31st, (the Mott St. Cholera Hospital received patients until October). Whole number received at the Franklin St. Cholera Hospital, 606; whole number died, 255, including those received dead, moribund and dying. Number discharged cured, 351. Whites, 591. Negroes, 15.

Sexes.	No.	Died.	Cured.	Per Centage.	
				Died.	Cured.
Males - - -	310	135	175	.43	.57
Females - -	296	120	176	.40	.60

Condition.	No.	Died.	Cured.	Per Centage.	
				Died.	Cured.
Single - - -	333	113	220	.33	.67
Married - -	162	93	69	.57	.43
Widowed - -	87	41	46	.47	.53
Unknown - -	24	8	16	.33	.67
Total - - -	606	255	351	.42	.58

Nativity.	No.	Died.	Cured.	Per Centage.	
				Died.	Cured.
Scotland - -	9	4	5	.44	.56
Ireland - - -	323	134	189	.41	.59
Germany - -	135	60	75	.44	.56
United States	76	23	53	.30	.70
England - -	28	13	15	.46	.54
France - - -	6	4	2	.66	.34
Isle of Elba -	3	0	3	.00	1 00
Italy - - -	3	3	0	1.00	.00
Portugal - -	1	1	0	1.00	.00
Switzerland -	6	1	5	.16	.84
Sweden - -	1	1	0	1.00	.00
Holland - -	1	0	1	.00	1.00
Norway - -	1	1	0	1.00	.00
Bermuda - -	3	3	0	1.00	.00
South Africa -	1	0	1	.00	1.00
Poland - -	2	0	2	.00	1.00
Unknown - -	7	7	0	1.00	.00
Total - - -	606	255	351	.42	.58

From the above table it will be seen that the greatest number of patients were foreigners; the native born, with but a few exceptions, were of the most degraded class, with constitutions broken down by dissipation, and previous disease. The majority of foreigners had been here but little over five years. The following table, carefully taken at the time, shows the length of residence in the United States.

No. of Patients.	No. of Days.	No. of Patients.	No. of Months.
4	1 "	13	6 "
1	2 "	4	7 "
5	3 "	5	8 "
1	5 "	8	9 "
13	one week	6	10 "
11	2 "	1	11 "

No. of Patients.	No. of Days.	No. of Patients.	No. of Months.
5	three weeks	34	one year
24	one month	50	2 "
25	2 "	39	3 "
22	3 "	23	4 "
9	4 "	21	5 "
4	5 "	195	over five years.
124		399	
		124	
	Total	523	

The following table exhibits the ratio of age and mortality. The greater number received were about the meridian of life, or approaching it, but the greatest mortality being past that period.

Age.	No.	Died.	Cured.	Per centage.	
				Died.	Cured.
From 1 to 10 years	16	7	9	.43	.57
" 10 " 20 "	59	26	33	.44	.56
" 20 " 30 "	236	70	166	.29	.71
" 30 " 40 "	139	66	73	.47	.53
" 40 " 50 "	92	48	44	.52	.48
" 50 " 60 "	34	20	14	.58	.42
" 60 " 70 "	14	10	4	.71	.29
" 70 " 80 "	5	2	3	.40	.60
" 80 " 90 "	1	0	1	.00	1.00
Unknown	10	6	4	.60	.40
Total,	606	255	351	.42	.58

The recent epidemic differed in many particulars from that of former years. Previous epidemics were preceded by mild affections of the bowels; the present was ushered in together, the bowel affections keeping pace with the epidemic, and declined in the same ratio with it. Cramps in the extremities were not so severe, in some instances they were entirely absent; in the abdominal muscles the cramps appeared more severe. The consecutive stage was much more obstinate; in the latter respect it differed materially from previous epidemics: a bilious evacuation was then hailed with joy, and the patient considered safe; at present this result was brought about in all those that survived until a reaction could take place.

Table giving the stage of disease Patients were received in.

Stage of disease.	No.	Died.	Cured.	Per centage.	
				Died.	Cured.
First or incipient stage, - -	136	6	130	.04	.96
Second stage, - - - - - -	56	6	50	.10	.90
Partial Collapse, - - - - -	167	67	100	.30	.70
Profound Collapse, - - -	192	128	64	.66	.34
Consecutive Stage, - - -	8	2	6	.25	.75
Moribund, - - - - - -	34	34	0	1.00	.00
Articulo-mortis, - - - - -	9	9	0	1.00	.00
Dead (when received,) - -	3	3	0	1.00	.00
Dysentery, - - - - - -	1	0	1	.00	1.00
Total, - - - - - - -	606	255	351	.42	58

On a glance at the above table it will be seen that comparatively few were received in the second stage. Many, fearful of approaching danger, would be sent to the hospital in the first or incipient period; others, more heedless, and with a dread of hospitals, or ignorant of the consequences, would hesitate; while the disease would rush on to the stage of collapse. For example, one of the many instances that occurred was the following:—A woman with her infant was brought to the hospital in the first stage of cholera. After learning that her child could not remain with her, although assured that it would be well taken care of, and freer from danger than in the Cholera Hospital, refused to remain, started off on foot, exposed to the heat of the sun, and in one hour was brought back in a dying condition.

It may be well to add that the whole number treated, exclusive of the dead, moribund and dying, with one case of dysentery, was 560, and of this number died under treatment 209, per centage 37; discharged cured 351, per centage 63, including 192 patients in profound collapse, or pulseless; and of the 209 that died are included those that reacted and died with consecutive fever and other diseases, as follows:

Died with congestion of brain, - - - - - -	35
" consecutive fever, - - - - - - - -	15
" epileptic convulsions, - - - - - - -	1
" dysentery, - - - - - - - - - -	1
" phthisis pulmonalis, - - - - - - -	1
" ulceration dependent on secondary syphilis, -	2
Total, - - - - - - - - -	55

Making 154 that died of cholera or in collapse. Per centage, 27.

Many of the patients were suffering either from constitutional or primary syphilis, or from gonorrhœa, and many who were considered convalescent had relapses, and died in consequence of syphilitic ulcerations or chronic organic disease.

Among the females admitted, seven were pregnant at periods varying from four to seven months, five died, three undelivered, and two after delivery. Reaction was established in all, one of them having strenuously denied the fact of her pregnancy (being unmarried); labor having set in she immediately relapsed into a state of collapse, and died thirty-six hours after delivery. Of the two discharged cured, one was delivered; the other, being about four months advanced, went on to the natural period of gestation. Among the many complications, the most formidable and alarming were epileptic convulsions; it occurred in five patients—one female, and four males, of which one died. The female had three weeks previously been confined.

The following table exhibits the time that elapsed between the period of admission and the death of patients admitted:

No. patients.	Minutes.	No. patients.		No. patients.	
20	30	1	15 hours	19	over 7 days
4	1 hour	4	16 "	3	dead when received
11	2 "	1	17 "	—	
8	3 "	3	18 "	22	
6	4 "	2	19 "		
8	5 "	1	20 "		
10	6 "	2	22 "		
13	7 "	52	1 day		
2	8 "	20	2 "		
7	9 "	15	3 "		
5	10 "	12	4 "		
6	12 "	7	5 "		
3	13 "	5	6 "		
2	14 "	3	7 "		
105		128		233	
	Total,			255	

The following table contains a record of the occupations of the patients admitted:

Occupations.		Occupations.	
Laborers	124	Harness Makers	2
Servants	115	Clerks	2
Housekeepers	71	Machinist	1
Seamstresses	32	Book Agent	1
Washerwomen	28	Tin Smith	1
Sailors	34	Carver	1
Carpenters	12	Cabinet Maker	1
Shoemakers	12	Confectioner	1
Farmers	11	Reporter	1
Tailoresses	11	Runner	1
Tailors	9	Horse Trainer	1
Dressmakers	7	Manufacturer	1
Peddlers	6	Soda Water Maker	1
Waiters	5	Packer	1
Blacksmiths	3	Showman	1
Butchers	3	Skinner	1
Cooks	6	Whitewasher	1
Gold Beaters	3	Rail Road Conductor	1
Printers	4	Nurse	1
Sail Makers	2	Cooper	1
Coach Makers	3	Ship Carpenter	1
Barbers	2	Baker	1
Milliners	2	Brewer	1
Painters	2	Saloon Keeper	1
Cupper and Leechers	2	Stone Cutter	1
Porters	2	Trunk Maker	1
Lace Makers	2	News Boy	1
Merchants	2	Rope Maker	1
Hucksters	2	Brush Maker	1
Ragpickers	2	Steward	1
Cap Makers	2	Sea Captain	1
Moulders	2	Gun Smith	1
Masons	2	Unknown	45
Gardener	1		
Jeweler	1		79
			527
	527		
		Total	606

The epidemic had evidently reached its climax the third week in July, and it was more fatal previous to that date than after, as will be seen by the following table:

Rec'd from	June	25		Died from	June	25	
To	July	1	— 27	To	July	1	— 16
"	"	8	— 64	"	"	8	— 35
"	"	15	— 73	"	"	15	— 32
"	"	22	— 85	"	"	22	— 40
"	"	29	— 72	"	"	29	— 33
"	August	5	— 81	"	August	5	— 31
"	"	12	— 65	"	"	12	— 28
"	"	19	— 58	"	"	19	— 19
"	"	27	— 53	"	"	27	— 14
"	"	31	— 28	"	"	31	— 7
		Total	606			Total	255

The general appearance and symptoms of the cholera of 1854, as has been previously stated, differed in some respects from other epidemics, although in this disease, as in all others, the symptoms must suffer modifications from peculiarity of constitution, previous condition of health and habits of the patient affected. It has been observed, that such symptoms as indigestion, precordial weight, or oppression, flatulence, slight nausea, acidity, vertigo, headache, griping pains, and diarrhea, separate or combined, are prevalent during an epidemic of cholera. The stools are at first feculent and bilious, the *contents of the stomach* are also of a bilious character. First is thrown off the food, now tinged with bile, until the evacuations become paler, and characteristic of Asiatic cholera, and even the rice water dejections vary in appearance, sometimes tinged with a pinkish hue; others have the appearance of port wine lees; this latter appearance has been generally considered more fatal. I could not observe any difference; some writers assert cases of cholera that have died without either vomiting or purging. I should decide it to be no case of cholera, and in fact, I have yet to learn of a patient's dying with cholera, without vomiting or purging. There were several patients received in a dying condition, who neither vomited nor purged after admission, and their relatives who accompanied them stated positively that they had not previously; but what did the autopsy reveal? not a particle of food in the stomach, or fœcal matter in the intestines: one case in particular, where nothing was passed after his reception in the hospital, with the same assurance from his friends, his abdomen was found to be enormously distended, and upon examination, we discovered the stomach and whole intestinal canal distended with rice water, but not a particle of fœcal matter. The sphincter ani was so firmly contracted, that the finger was with difficulty passed in the rectum. It is evident, in such cases, that vomiting and purging take place so rapidly that the alimentary canal frees itself of its contents. The muscular action of the bowels becoming exhausted, the peristaltic action of the intestines ceases, the sphincter ani contracts, and hence the collection of fluid. In some patients all the symptoms of cholera would be present, except cramps; it frequently occurred, that patients would pass through all the stages of cholera without the least pain. In quite a large proportion, the head was seriously involved; many cases in this condition were attributed to previous treatment, such as the essential oils, hot drops, tinct. opii, &c., &c. In many, it was evident from the odor after vomiting, also from prescriptions and vials found on their persons. The speedy determination to the head was peculiar to the epidemic, and I believe many valuable lives were lost the past summer, by a too sudden check being given to the secretions, even where cholera was not fully established. The pupils in the greater number of cases were contracted; the mammary secretions were uninterrupted, and quite as copious during the attack as previous. The infant of one patient was brought to the hospital twice a day to nurse, until the mother recovered.

Perhaps it would be well to offer a few remarks on the consecutive fever. To watch a patient, in collapse, anxiously, and to see the unpleasant symptoms, one after another, pass off, is gratifying. We now have reason to hope, but are often doomed to despair. The patient has escaped one class of dangers, but meets others quite as formidable as the first.

The stools generally were consistent, dark green, or black; in some cases the secretion of urine took place with reaction, in others it did not so soon, but quite as often in the former as the latter, but not copious. Other cases would appear to be doing well, but suddenly relapse, and die. In some instances the form of fever would appear as typhus, but comparatively few. Generally, the tongue would be clean and moist; pulse either at or below the natural standard; pupils in this stage always contracted; the conjunctivia clear; vessels not congested; no desire for food; no unnatural thirst; skin shriveled, dry and husky; temperature of head natural; the patients would lie in a sleepy stupor, and their only wish was not to be disturbed. Arouse them, and ask them how they were, they would invariably answer, "First-rate, would like to have a good sleep." It was in this stage that singultus often occurred, which was very annoying to the patient. The disease did not appear to have any effect on the catamenia; in a number of patients, past the age of thirty, it was profuse, in one while in collapse; one female, who had been irregular at several periods, had a vicarious menstruation from the gums, corresponding with three of the upper incisor teeth; there were three different attacks at intervals of two or three hours; the patient became quite exhausted; in order to check it we had to apply a compress and cold applications.

There has been much speculation in relation to the hour of attack and death. The hour of death can readily be ascertained; but the hour of attack cannot. We are obliged to rely on the statements of patients, or their friends; in this there is no certainty. There might be two patients taken precisely at the same time, and, very likely, each one would date the time differently. In receiving patients at the Franklin-street Hospital, we noticed a greater influx of them from 11 A. M., until 11 P. M., and from the nature of the disease it is quite natural it should be so; they would more likely be stricken down when exposed to the heat and fatigue than when cool and at rest. We also noticed a greater increase after a sudden rise or fall of the thermometer, either with or without a fall of rain.

There have been many theories in relation to the progress of cholera, contagiousness of the disease, and cure. I took considerable pains to note down the more recent arrivals of emigrants, the ship's name, and port sailed from, as follows:

Ship's name.	Port sailed from.	Date of arrival at New York.		
Rostede, 3	Bremen,	May	1,	1854
Eliza,	Hamburg,	August	16,	"
Amazon,	Turk's Island,	"		"
Empress,	Sunderland,	"		"
Mississippi,	Genoa,	"	15,	"
Isaac Webb,	Liverpool,	June	10,	"
Sheridan,	"	August	16,	"
Sea Nymph,	"	July	25,	"

Ship's name.	Port sailed from.	Date of arrival at New York.		
Patrick,	Liverpool,	May	25,	1854
Carl Hershell,	Hamburg,	August	15,	"
American Union,	Liverpool,	"	"	"
E. D. Stanley,	"	"	21,	"
Isabella,	Havre,	September	20,	"
Ashburton,	Liverpool,	April	26,	"
Neptune,	Hamburg,	May	23,	"
Oswego,	Liverpool,	August	29,	"
Rome,	Antwerp,	"	8,	"
Clementine,	"	May	21,	"
Tornado, 2	Liverpool,	July	20,	"
Orpheus,	Bremen,	June	29,	"
Pemberton,	Cork,	July	31,	"
Spark of the Ocean,	Havre,	April	23,	"
John Hancock,	Liverpool,	February	"	"
Corinthian,	Antwerp,	May	20,	"
Vater Grunner,	Bremen,	July	"	"
Charles Hill,	Havre,	May	19,	"
Columbia,	Liverpool,	July	8,	"
Aspheus,	Bremen,	June	29,	"
Progress,	Liverpool,	May	28,	"
American Congress,	London,	April	21,	"
Budget, 2	Bremen,	July	12,	"
Catharine Augusta,	Antwerp,	"	29,	"
Rocinus,	Liverpool,	May	16,	"
Robert,	Bremen,	August	4,	"
Jordan,	Liverpool,	"	8,	"
Admiral,	Havre,	"	19,	"
Peter Hatrick,	Antwerp,	May	16,	"
Canalus,	Havre,	June	13,	"
President Smidt,	Bremen,	January	16,	"
Bajapore,	Liverpool,	June	29,	"
Isabella,	Havre,	April	4,	"
Eleanor,	Limerick,	May	23,	"
Wm. Henry Hasbrook,	"	April	20,	"
Western Empire,	"	June	23,	"
Lincea,	Liverpool,	July	9,	"
Bremen,	Bremen,	May	23,	"
Guttenberg,	"	"	24,	"
Webster,	Liverpool,	June	29,	"
John White,	Antwerp,	May	11,	"
Brother Jonathan,	Havre,	July	7,	"
Agnes Litz,	Liverpool,	May	23,	"
Sir Isaac Newton,	"	January	24,	"
Continent,	"	May	22,	"
Empire State,	"	March	2,	"
Regulus,	Bremen,	July	21,	"
Rhine,	"	June	30,	"
St. Nicholas,	"	March	18,	"
George DuKwitz,	"	May	11,	"
Suwarrow,	Havre,	July	24,	"
Wm. A. Cooper,	Antwerp,	May	24,	"
Senator,	Liverpool,	April		"
Total, 61				

It has been stated that the epidemic cholera of 1854 made its first appearance in Asia, 1851, and thence to Europe, 1852 and 1853, especially in the Germanic States, and statistics show that the large sea-port towns suffered severely.[*]

Now, if cholera is so very portable or contagious as to follow the emigrant and his baggage to America, and show itself wherever he shapes his course, or makes his stopping-place, why did it not appear here before the summer of 1854? Certainly there was quite as large an emigration in '52 and '53 as in '54, and from some of the identical ports affected. It will be seen by the above table that out of sixty-one vessels arriving at this port, there came to the Hospital sixty-five patients; being *three* from one, and two from two others, leaving one only from each of the fifty-eight remaining vessels. It is true there may be localities where its ravages are more fearful than others; and persons traveling from such places being attacked on the road, or at their journey's end, does not prove that it is portable or contagious. We received from some dwellings greater numbers than from others; but every physician knows that there are places that might be termed hot-beds, fit to nurture any disease, that might be prevalent at the time. In former epidemics it appeared to follow the water courses, sea-port towns, large rivers, and their tributaries. The past summer it took a wider range, and spread further in the interior. The distribution of the disease in the city was pretty general, commencing in the lower part of the city, and working northward and eastward. The following table gives the number from each ward:

Number from each ward.		Number from each ward.	
1st Ward	48	10th Ward	5
2 "	12	11 "	10
3 "	22	12 "	1
4 "	64	13 "	9
5 "	55	14 "	12
6 "	112	15 "	7
7 "	25	16 "	10
8 "	13	17 "	15
9 "	10	18 "	24

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[*] See *New York Journal of Medicine*, Nov., 1854.

Number from each ward.		Number from each ward.	
19th Ward	12	Strangers not belonging in the city	35
20 "	6	From New York Dispensary	8
From Commissioners of Emigration	18	Unknown	54
From Vessels in port	17		
" Ward's Island	2	Total,	606

It will be readily seen, that the greater numbers came from those wards where are located the most tenant houses, with less regard to ventilation, or infested with those brothels of filth and degradation, as the Five Points.

I should think the following would satisfy any contagionist that the disease is not communicated from one to another. The Hospital building was small, but two stories high. The first floor and male ward was 25 feet by 35, which contained at one time, when the disease was at its height, 25 patients. The second floor and female ward was 25 feet by 30, and also contained at the same time 25 patients. The sleeping apartments of both nurses and physicians were in direct contact with the wards of the patients, the doors and windows had necessarily to be thrown open that there might be a free circulation of air throughout the rooms, and for a week or more, when the wards were crowded, the attendants had to sleep as they could catch a nap on the next bed to a dying patient. The yard in the rear of the Hospital was enclosed by a wall 12 feet high, the size was 20 feet by 30; it was used as follows: one end was taken up by water-closets, one part was set off for cooking, or, in other words, used as a kitchen, one part as a wash-house, another, about 8 feet by 10, to examine patients in after death. We examined 78 patients, the most of them very minutely. We punctured our hands frequently, and had them imbrued in the fluids without any bad results following, and in order that no part of this small piece of back ground should be unoccupied, the remainder of what has been disposed of above was used as a deposit for the dead, until removed by friends or the dead-cart. There were always more or less there, for six hours at a time, and in one instance there were piled up ten coffins, exposed to the rays of a summer's sun ten hours, until they became so offensive that the attendants could scarcely endure it. We numbered at the hospital 20 persons, physicians, nurses and attendants, and but one died with cholera. The others enjoyed good health, without any symptoms of cholera throughout the time they were engaged. The man who died was a *Swiss*, employed as a sedan carrier to bring patients to the hospital, of temperate habits, used to drink large quantities of soda water. He complained one day that the work was too hard for him and that he would like to leave: permission being granted, he went; five days after he was brought to the hospital in a dying condition. Examination after death found the lungs adherent to the pleura, nearly in their whole extent, and tuberculous.

Morbid appearances observed after death.—Apart from the usual external appearances, in many the skin showed patches of ecchymosis; and this was not strictly confined to the skin, it frequently showed itself in the abdominal viscera. Among the appearances we met with, unconnected with cholera, which were numerous, may be mentioned tumors, old abscesses, ancient thickening and osseous productions of the membranes, diseases of the heart, lungs, and blood-vessels, morbid lesions of the liver, gall-bladder, spleen, kidneys, uterus, and of the stomach and bowels. Diseases of these organs we saw in almost every case, either singly or combined, and of which we selected some valuable specimens. It would seem from this, let the cause be what it may, cholera more generally selects diseased subjects for is victims. Of the above named organs involved, the lungs and kidneys predominated, the former more generally from pleuritic adhesions, tubercles, abscess and hepatization; the latter from softening and fatty degeneration. Of the 78 autopsies made, I have nothing new to add. With but few exceptions, we saw what was seen and spoken of years previously, from the head to the feet, the whole system highly engorged with dark blood, blood-vessels, substance of the brain, abdominal viscera, &c., &c. Perhaps the collection of serum in the ventricles of the brain may have been greater. I do not remember of seeing it stated before, but we found in several instances three ounces of serum in the ventricles alone, independent of what was collected between the pia and arachnoid membranes and in the cranium. The pituitary body presented no marked deviation from its normal appearance. The gall-bladder we generally found greatly distended; in one instance it measured six inches in length, six inches in circumference at the middle, and six inches and a quarter in circumference at the base (the specimen is in my possession). The effusion of serum was found in greater abundance in those that died in collapse, the distended gall bladder in those that died in the consecutive stage. The dissolved and fluid blood, as has been spoken of by writers on this subject to always or generally exist, did not hold true with us. In those that died in collapse, we found the fibrinous clot and coagulated blood to exist in the right cavities of the heart in as great a per centage as otherwise. The generative organs, both male and female, in at least two-thirds of the cases examined, were in a frightful condition from the effects of the venereal disease. The mouth of the womb universally contained a plug of mucus, and all the other viscera presented the general and usual appearance of those dying of cholera.

Prevention.—How shall we prevent the ravages of this terrible scourge? The first method we shall consider will be general—the second personal. In our large towns and cities, every species of fermentative and putrefactive matter should be removed, and its accumulation prevented. The decomposition of animal and vegetable matter, which is constantly taking place in the warm season in our cities, contributes greatly to disease, and this will continue to increase until a complete system of sewerage is effected. For example: both animal and vegetable matter is collected in the street gutters; a hydrant in an alley-way is leaking or left running water at times, more or less; the rays of a summer's sun cause its evaporation, and the noxious effluvia is constantly disseminated in the atmosphere; such being the effects of a collection of stagnant water. All the water from hydrants and roofs of houses should pass off in sewers. This, I consider, would add greatly to our health in summer, and convenience in winter. Another great evil exists in our cities, for instance, the custom of building tenant houses. We find them with an alley-way from twenty-five to one hundred feet in length, passing in the rear. We then see buildings from four to six stories high, with low ceilings and small rooms, containing from one hundred to one thousand human beings, and no chance whatever for the circulation of fresh air,—in fact, they live in a sort of labyrinth; and, like the Pontine Marshes, seldom a stranger passes through its winding portals, but he comes out tainted with the miasm it generates. The personal preventives are cleanliness and strict attention to diet, regularity, a stated hour to eat and sleep, guarding against an excess in either; a moderate use of all things; fruits and vegetables should be proscribed, on account of their predisposition to acidity and flatulence; although, I believe, if fully arrived at maturity, and not injured by exposure to the sun, or become stale, that certain fruits and vegetables are harmless. Soups, properly made of beef or lamb, with rice or macaroni, beef steaks, tender ham, boiled eggs, corned beef with boiled rice, and macaroni, unfermented bread, crackers, or ship biscuit, is the best. The disease was evidently hastened in many that came into the hospital by eating crude vegetables and fruit, stale meats, etc.; particles of the same were found in the stomach and bowels of some after death, who had died in collapse, such as half-grown potatoes and pine-apple. As is generally the case, during the prevalence of this disease—a disordered state of the stomach and bowels, without enumerating all the premonitory symptoms—many are in the habit, as soon as a little looseness of the bowels commences, to resort to a stimulant or anodyne, although very convenient at the time, eventually proves highly injurious. I recommended and used an alterative pill, composed of mass. hydr., comp., ext. colocynth, and Ipecac., taken occasionally at bedtime.

Treatment.—The treatment pursued was the mercurial, in the fullest acceptation of the term, in all stages of the disease. It is singular, though no more singular than true, to see some practitioners administering one and two grain doses of calomel combined with opium and lead, at intervals of half or every hour, and very likely it may reach the stomach, though doubtful—admitting it does, the constant exhalation of rice-water that is taking place in the active stage of cholera, and in consequence, the constant emesis, what chance is there of its remaining there, even if it should be given thus combined? The more taken, in my estimation, the worse they are off; taking one set of remedies to counteract the other—the already torpid and sluggish secretions being still more paralyzed by the opium. Some are very much amazed and frightened if you tell them to give a large dose of calomel alone. "Why," they say, "you will purge your already exhausted patient to death." Now I have generally found calomel slow in its action as a cathartic; in large doses more sedative in its effects, and its cathartic action does not increase in proportion to the increase of the dose. Our main object was, if possible, to mercurialize the patient, and I have never seen one die with cholera, where this object was effected. Of the whole number treated in the hospital, there was not a death or a relapse, where ptyalism was produced; the consecutive stage of fever was easily managed, and from the effects of these "hazardous doses of calomel," as some stigmatize them, only three proved at all tedious.

The second intention was to keep the patients quiet and composed in bed, to apply mustard externally and the hot-air bath, to keep them closely covered with a woolen blanket, and to give them powdered ice *ad libitum*, and not a particle of water until reaction was fully established.

In the first stages of cholera we gave from thirty-five to forty grains of calomel, and applied a mustard sinapism over the whole chest and bowels, from the sternum to the pubes, placing the patients in bed, covering them with a blanket and applying the hot air underneath to the extremities, (this was conveyed from an alcohol lamp through a tin tube) though not pleasant to the patient at first, soon had a soothing effect and had a greater tendency to relieve the cramps than any other means used. In fact, we would not admit of any friction whatever, believing it more injurious than otherwise. In using friction, you cannot do so without exposing the patient to currents of air, more or less; and when this constant exhalation is going on, evaporation must take place, and, in consequence, produce cold; and, not only taking this view, consider, for instance, a patient with one assistant to each limb, rubbing with might and main, what chance have they for rest and quiet? I have seen patients nearly flayed of their epidermis by friction. In a few instances, patients having always heard of and seen friction used in cholera, persisted in having it used on themselves; but we invariably found the cramps more severe. Whenever patients were admitted, they were proceeded with as described above, and given in charge of a nurse, with strict orders to keep them quiet,—the heat well applied and closely covered, not to allow them to rise up in bed or use any exertions whatever. Being kept in this position for a short time, the surface began to dry and heat return to the extremities. If they rejected the first dose of calomel it was repeated, not waiting for one hour or half hour to elapse, but in five minutes, and so on until emesis ceased, or we saw some signs of the medicine, or judged a sufficient quantity had been retained in the stomach to proceed at regular intervals with diminished doses. If a stimulant or anodyne was indicated, we used the following

℞. Chloroform.
Sol. Morph. (Majend.,)
Tinc. Camph. (Sat.,)
Syrup Simplex, aa partes æquales, (fluid meas.)
M.

Of this, a teaspoonful was given in a tablespoonful of brandy or simple syrup, as the case demanded, at intervals of half an hour, if necessary to allay irritability. This had a happy effect, with the other means used, to assist the vomiting and quiet the irritable state of the system, and for that purpose only was it intended. In a few instances we had recourse to stimulants, independent of this, but found it necessary to use them cautiously, and watch their effects, and in using them we found great advantage in consulting the habits of patients. For instance, the German could not endure brandy—as a general custom he is used to drinking wine and beer, and the peculiarity seemed to cling to him in disease: we therefore took advantage of this, and gave the German wine and the others brandy when indicated, and found it to answer a better purpose.

We have now arrived at the stage of collapse, wherein the vital powers are completely prostrated by the disease being fully formed, the action of the heart nearly ceases, there is no pulse at the wrist, skin cold and clammy, and all the urgent symptoms present in cholera fully developed. Here action is called for at once; what, in ordinary diseases, we take hours and days to accomplish, must now be done in minutes; there is great torpor and want of excitability, blisters will not act, sinapisms do not produce their usual effect, the skin is apparently dead, internal stimulants you cannot use with safety, and the only species of medicines that can be used, are such as will stimulate and restore the secretions: this we find in calomel—its action is first alterative, then cathartic; by its altero-stimulating action it relieves the pressure, and enables the system to rally sufficiently to sustain the subsequent action of the medicine. Patients coming in during this stage of disease or verging on it, we gave 60 grains of calomel, and if they vomited very soon after, and the medicine could be detected in the vessel, we did not wait, but repeated the same quantity at once, and so on, until the third or fourth dose was administered; if they did not vomit, and the rice water dejections ceased, one dose would suffice; in connection with the means used in the first stages of the disease, we usually continued the large doses until the urgent symptoms were past, which usually did not require more than the fourth dose, but still continued the calomel for 12, 24, or 36 hours, diminishing the dose, and increasing the interval, as the existing symptoms would seem to indicate. As has been stated before, many are fearful of purgation, from the effects of so large doses of calomel. I can say to all that are timid in this respect, with confidence, that I have never met with a case of cholera, treated as above stated, and hypercathartis ensue; on the contrary, it has frequently occurred, that patients, both in the hospital and private practice, have been seized with violent vomiting, purging, and cramps, which had, from their own statement, been kept up every ten minutes, for one, two, and three hours; after taking 60 grains of calomel, have not vomited or purged in three, six, to twelve hours after, and in two or three instances in the hospital, after waiting twelve hours, resorted to mild enema to open the lower bowels. It is not a general thing for purging to subside so soon; we have more frequently to follow up the medicine. In the first stages we have more cathartic effects from the calomel, though given in smaller doses; the vital power is not so dead to the action of remedies. Some speak highly of enemas of laudanum, anodyne suppositories, &c., &c.: we tried them in a few cases, but found it like throwing chaff against the wind; probably before or by the time we had completed the operation, it was thrown back with greater velocity than it was placed there. I believe it entirely useless to annoy the patient with any thing of the kind, in the active stage of cholera. If the disease was located in the lower bowels, it might be beneficial; but consider the great quantity of fluid collecting in the stomach and upper portion of the alimentary canal, constantly pushing down on the lower bowels and sphincter ani, and what chance, indeed, has it to remain there long enough to relieve the patient? This would be treating a symptom, not the disease. We gave several cases, in combination with the calomel, sulph. quinia, but found no benefit from it, and, by the suggestion of some of our practical friends, were induced to combine with it *tannin;* in this, as in the former, we were disappointed, could see no advantage whatever arising from it, and, if any thing, detrimental; the irritability of the stomach was not as easily controlled as when giving the calomel alone: we had recourse to venesection in one patient, a female; she sank under the operation and died shortly after. This was the extent of our variation from the general treatment commenced at first, and even in this we did not lose sight of the calomel; we made that our sheet anchor from first to last, and had no cause for regret. Had we in our hospital building possessed the advantages of some other institutions, our per centage of cures might have been much greater; but, unavoidably, it was otherwise. As I have previously stated the dimensions of the building, it only remains for me to say that we were necessarily compelled to place the dying, the critical, and the convalescent in the same ward together, which had an unhappy effect on the patients, females more particularly. The female ward was in the attic story, which caused it to be much warmer; as at midday the rays of the sun falling directly on the roof, and although the per centage of deaths is nearly the same, it should not have been so; evidently many of the female patients at times were doing well, and there was nothing to prevent their recovery, had we been provided with a cool ward for the convalescent.

The following table exhibits the range of thermometer in the lower ward taken three times a day, commencing July 17 (the papers containing the previous dates having been mislaid or lost). The upper or female ward, when the sun was out, ranged 8 to 10 degrees warmer than the lower ward, which caused it to be much more oppressive to the patients.

We did not offer the patients any nourishment in the active stage of disease, the mere sight of it would appear disgusting to them. I believe any cause to disturb the mind or body in cholera is detrimental, and I see no earthly good to be derived from it in this stage of disease. Pounded ice, about the consistency of snow, appeared to relieve the burning heat in the stomach, so much complained of, more than any thing used. They really considered it a luxury, when told they could have as much as they wished. Too much stress cannot be placed on keeping the patient quiet and composed in cholera; the mere turning in bed, rising up to take medicine, throwing the arms out from under the covering, flexing the limbs violently, and extending them, all predispose to cramps, and increase the irritability of the stomach and dejections from the bowels.

DATE.	8 A.M.	12 M.	8 P.M.	DATE.	8 A.M.	12 M.	8 P.M.
July 17	71	78	70	Aug. 9	72	76	70
" 18	76	83	80	" 10	70	74	68
" 19	78	87	79	" 11	72	78	70
" 20	81	93	86	" 12	74	80	72
" 21	80	92	87	" 13	78	88	76
" 22	80	87	80	" 14	76	82	73
" 23	80	88	76	" 15	74	80	70
" 24	76	80	70	" 16	73	81	72
" 25	78	82	71	" 17	74	78	73
" 26	80	88	76	" 18	70	76	68
" 27	76	80	78	" 19	73	78	70
" 28	76	82	74	" 20	72	81	69
" 29	76	79	72	" 21	76	81	72
" 30	77	84	76	" 22	76	91	75
" 31	76	82	72	" 23	72	74	69
Aug. 1	78	85	76	" 24	74	82	70
" 2	80	87	79	" 25	78	88	74
" 3	78	83	77	" 26	78	87	74
" 4	76	84	74	" 27	72	80	69
" 5	76	83	76	" 28	71	80	68
" 6	76	86	70	" 29	69	76	67
" 7	70	73	69	" 30	70	78	66
" 8	68	76	65	" 31	68	70	63

No purgative is called for: after the calomel we were in the habit of administering a mild enema to assist the bowels, if they did not move in twenty-four hours, and reaction had been fully established, and also where the effects of the mercury was showing itself on the system and reaction satisfactorily established, we gave sulphur in doses sufficient to act as a cathartic. The diet should necessarily be light in convalescence—the stomach is still very irritable, and must not be overtaxed—it should consist of arrow-root, tapioca, etc., and it should be given in small quantities at short intervals.

The sweet spirits of nitre, given in the first stages of convalescence, has a marked effect in restoring the secretions of the kidneys and healthy action of the skin. Tonics are seldom called for, except in the advanced stage of convalescence of the aged and naturally feeble constitutions.

In the consecutive stage of fever is required a judicious course of treatment. Here the judgment of the practitioner is called in question more than in the active stage of cholera. Here, as in the first stage of cholera, the same symptoms vary according to previous habits and peculiarities of the patient, and the treatment has to be adapted accordingly. Some cases terminated in confirmed typhus and were treated as such, combatting local inflammations by cupping, blisters, etc., etc. In the consecutive stage where mercury was needed, we gave mass. hyd. spts. mindereri with spts. nit. dulce., and all those that terminated in dysentery we gave the astringents, as lead, opium, and tannin, anodyne suppositories blended with the butter of cocoa, with great benefit, at the same time treating the general fever on general principles.

From the foregoing, it would be supposed that I am a strong advocate for the excessive use of mercury, and it might be inferred, in all diseases and at all times: far from it; I am opposed to its indiscriminate use, and think it injurious; but in a disease like cholera, I believe it the only medicine that will overcome and promptly subdue it.

The foregoing observations are composed, as taken from patients or those that accompanied them to the hospital, of incidents that occurred previous to their arrival, that we might arrive at facts in relation to the commencement, duration, symptoms, and previous treatment, discarding any thing equivocal, or in the shape of reports. Our object is to reveal all in our power and be correct, by stating what occurred during the epidemic in the hospital—watching by the bedside of the sick and dying, to accomplish it—the treatment pursued, the statistics as revealed, leaving the results, as compared with other institutions, to the consideration of the profession.

I cannot conclude these remarks without rendering a merited tribute to Drs. C. A. Budd and Richards, who were associated with me in the medical staff of the hospital, and who ably and zealously endorsed all my efforts,—the former rendering marked assistance in post-mortem examinations, and the latter in microscopic observations.

To the commissioners of health I beg leave to acknowledge my great obligations, for the promptness and liberality with which all my requisitions were supplied.

ART. V.—*Is Cholera invariably preceded by Premonitory Diarrhœa?* BY JOSEPH C. HUTCHISON, M. D., of Brooklyn, N. Y.

IN the last number of the *New York Journal of Medicine* there was a communication from Dr. Macloughlin, of London, in which he endeavors to prove that the six cases detailed in my Monograph on Cholera,[*] showing that this disease is not always preceded by diarrhœa, are not really exceptions to the rule laid down by him, "*that cholera is invariably preceded by a diarrhœa for a few hours, a few days, or a few weeks.*" He, indeed, declares that I have, by my "own showing, proved that these six cases had a premonitory diarrhœa."

Dr. Macloughlin's pamphlet,[†] in which the above rule was enunciated, was received by me last summer during my term of service as physician to the Brooklyn Cholera Hospital. On referring to the note-book, I found that in several cases it was recorded that premonitory diarrhœa had not existed. Previous to this time my attention had not been *very specially* directed to the question, and, as the above unconditional and unequivocal opinion of Dr. M. seemed to be based on extensive and apparently careful observations, I was induced to suspect that a more rigid inquiry into the histories of those cases might have resulted in the confirmation of his statements. The inquiry was, therefore, commenced *de novo*—certainly with no determination or even desire to arrive at conclusions different from those maintained in the pamphlet to which reference has been made, and no efforts were spared, no source of information neglected, that could be made available, to ascertain, in every subsequent case in which premonitory diarrhœa was said to have been absent, whether the statement was correct or not. The result will, I think, convince every candid inquirer, who has any faith in medical testimony, that Dr. Macloughlin's rule is not without exceptions.

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[*] See *New York Journal of Medicine*, January, 1855.

[†] *Result of an Inquiry into the Invariable Existence of a Premonitory Diarrhœa in Cholera.*

I propose, in the first place, to show that Dr. Macloughlin's definition of cholera and premonitory diarrhœa differs widely from my own and from that of generally recognized authorities, and that, in reality, this difference in the use of terms employed will account in some degree for the issue between us; and, secondly, to re-produce the reports of the six cases which form the basis of my conclusions in connection with his replies to each, and to add such comments as his objections necessitate.

It is regretted that Dr. Macloughlin's answer is not free from the charge of ambiguity; and that I may not misinterpret him, which I would sincerely deprecate, I will quote freely from it, in order that the reader may decide whether the Doctor has been properly understood. The following extracts contain, I think, his definition of premonitory diarrhœa, and also, by implication, of cholera:—

"It is the time which elapses from the first liquid evacuation to the first cramps. This is called the premonitory time, and all the evacuations which occur during that time constitute the premonitory diarrhœa." * * * * * *

"Often we find that persons who are laboring under painless diarrhœa do not believe themselves ill, because they have no pain; and we find them walking about for amusement, or for business, or employed in-doors at their usual occupations, with the cold, cyanic state of the skin, and with the cold, clammy dew of death all over their body, *the heart having ceased to beat, and the blood to circulate.* And yet these persons will say that they are quite well, that they feel as strong as ever, except, possibly they may add, that they cannot speak so loud as usual; and possibly in a few minutes after, these persons are struck down by spasms, vomiting, etc., and cease to breathe in three, four, or five hours after, to the astonishment of all who are not aware of the insidious advance of the disease."

Dr. Macloughlin's experience in the observation of cholera has been rather remarkable. It would be a phenomenon, to see persons walking about at their usual occupations, "with the cold, clammy dew of death all over their bodies, *the heart having ceased to beat, and the blood to circulate,*" and yet informing us "that they feel quite well, and as strong as ever." This statement I supposed might be a typographical error, or a *lapsus pennæ*, until I saw it repeated in a pamphlet just received from Dr. M. As he complains that my cases were not reported with sufficient care, I may be pardoned for saying, that the *minute details* of cases so unique as those above described would have been equally desirable.

From the above quotations, and others which will appear hereafter, we infer, that, according to Dr. Macloughlin, diarrhœa becomes cholera as soon as cramps are developed, and not until then—that cramps are an indispensable symptom, a constant characteristic of the disease—that, indeed, no other symptom is half so distinctive, not even the cold, cyanic state of the skin, etc. The case may have advanced so far that the heart has ceased to beat, and the blood to circulate, and still the patient is only in the premonitory stage of the disease, for *spasms* have not yet occurred.

I will not stop to quote opinions in favor of the position that spasms are not pathognomonic of cholera, although plenty of them are at hand. It is sufficient to state that the generally recognized authorities on the subject of cholera agree that cramps are merely a usual, one of the most striking, but a non-essential symptom, whose absence would not in the least affect the diagnosis of the disease.* And I will venture the affirmation that there is no one who has seen much of cholera (except Dr. M[illegible]) that has not witnessed cases run their whole course to a fatal termination entirely without this symptom.

As Dr. M. makes the choleraic stage commence with cramps, an opinion peculiar to himself, it is evident that the controversy into which I have been drawn is based, in some degree, on a distinction without a difference. For I understand, when an individual (previously in perfect health and free from diarrhœa), is suddenly attacked with vomiting and purging, attended with a degree of prostration which bears no relation to the severity of the discharges, and followed soon afterwards by collapsed countenance, a cold and blue state of the skin, etc., that he has been attacked with cholera, without premonitory diarrhœa, *whether cramps be present or not*, and the cases which I have detailed as cholera without premonitory diarrhœa, are called so in accordance with the above definition.

I proceed now to place side by side the reports of my cases,† with the objections to each presented by Dr. M.

"Case 1.—*Admitted September 1st*, 1854. Sarah Y., aged 33, attacked with vomiting and purging a 'thin, watery fluid,' at 7 o'clock this morning, and cramps half an hour subsequently. She states that she felt perfectly well up to this time, and had no premonitory diarrhœa, which was further confirmed by the testimony of her husband. *Symptoms*—Vomiting and purging, excessive thirst, livid appearance of the face, thready pulse, skin cool and covered with a clammy perspiration, suppression of urine. Death in 27 hours."

It is objected to the above case, that as the discharges were said to have been a thin, watery fluid, and as it is not stated whether fæcal matter was or was not present in the evacuations, therefore the fæcal matter must have been washed away by previous evacuations, i. e., by diarrhœa.

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* *Researches on the Pathology and Treatment of the Asiatic or Algide Cholera.* By E. A. Parkes, M. D. Lond., 1847, p. 94. Dr. Budd on Cholera in *Lib. Pract. Med.* Tweedie. Am. Edit., Vol. iii., p. 101. Barnwell, *on Asiatic Cholera.* Lond., 1853, p. 57. *Report on Cholera in Paris in* 1832. By Dr. Jackson of Boston.

† See *New York Journal of Med., January*, 1855.

I reply, 1. That, for the description of the character of the discharges before the admission of the patient into the hospital, we were necessitated to rely on the statement of herself and husband, and it cannot be presumed that they would examine a discharge so as to state all its peculiarities as a physician would. There probably was fæcal matter in the first discharge, but, that its general character was thin and watery, so that this peculiarity alone arrested *their* attention, there can be no reasonable doubt, nor can it be surprising. It cannot be objected that the admission, that there may have been fæcal matter in the first discharge, proves that the patient may have had a premonitory diarrhœa; for the interval between the discharges is often not greater than five minutes, and if there was fæcal matter in the first discharge, as well as a thin, watery fluid, there may have been none in that which may have occurred five minutes subsequently. And, it cannot be said that the patient had a premonitory diarrhœa for five minutes, for this "invariably precedes cholera for a few weeks, a few days, or a few hours."

2. It may be stated, in addition to the above history of this case, that it came from a house in which a number of deaths had occurred from cholera, and as the family in which this case occurred were persons of considerable intelligence, they were on the look out for premonitory diarrhœa; and it would have been remembered had it occurred, especially, when their attention was subsequently directed to it by particular inquiries.

3. This patient may have had a healthy fæcal discharge a short time before the above attack. This is by no means impossible, and if so, would there not have been almost, if not entire absence of fæcal matter in the first choleraic discharge?

" CASE 2.—*Admitted September 2d*, 1854. Sarah J. Y., daughter of preceding patient, aged 5 years, attacked at 5 o'clock this morning, with severe vomiting and purging; by careful inquiry of herself and father, it cannot be ascertained that premonitory diarrhœa had existed. Symptoms—Vomiting and purging, intense thirst, cold and clammy state of the skin, feeble circulation, husky voice, and suppression of urine—no cramps. Death in [illegible] hours from commencement of the attack."

The reply to this case is,—"That the existence of a premonitory diarrhœa cannot be doubted." The writer has omitted to furnish a reason for this opinion. He also declares that, "as Dr. [illegible] has not told us whether he had or had not carefully watched or caused to be carefully watched whether the fingers or toes were or were not suddenly contracted by spasms and as suddenly relaxed, it cannot be admitted that he is authorized to say that his patient had no *spasms*, and that, therefore, it was a case of cholera without a premonitory diarrhœa, and without spasms."

It might, with equal propriety, have been denied that the patient was 5 years old, because it is not stated how this fact became known, whether from herself, her parents, or the *records* of the family bible; or that she had cholera at all; but, as it is admitted to have been a case of cholera, it is *inferred* that there *must* have been a premonitory diarrhœa, and, *for* the same reason, there *must* have been spasms,—but *no care* was taken to ascertain their existence." In other *words*, the objection amounts to this:—Cholera cannot exist without premonitory diarrhœa and cramps; therefore, as this was a case of cholera, these two symptoms must have been *present*, the statements of the patient, her father, and the physician to the contrary notwithstanding.

It would be interesting to know how Dr. Macloughlin was apprised that no care was taken to ascertain the existence of cramps. The fact is simply announced that the patient had no cramps, and it would seem to be a reasonable inference that care *was* taken to ascertain whether this symptom was actually present or not.

"CASE 3.—*Admitted September 2d*, 1854. Julia R., aged 22, went to bed perfectly well last night, slept soundly, and was attacked with vomiting and purging a watery fluid, and cramps in the stomach at 6 o'clock this morning. *Symptoms*—Vomiting, purging, feeble voice and circulation, lower extremities cold, blueness of the surface, and suppression of urine. When admitted, and after her recovery, she stated positively that she had no liquid discharges before the hour above-mentioned."

The same objection is urged to this as to the first case, and we have nothing to add here, in relation to the character of the discharges, to what was said of the first. The case is notable as forming an exception to the "invariable rule," even if we admit the anomalous position that no case can be called cholera until spasms commence. For here we have the evidence of the patient, elicited on the most careful and rigid examination when admitted, and again *after recovery*, that she had had no liquid discharges before the hour at which the vomiting, purging and cramps were *simultaneously* developed.

"CASE 4.—*Admitted September 3d*, 1854. Thomas O., aged 44, went to bed well last night, slept as well as usual, and was awakened at 5 this morning with an inclination to vomit and purge, which soon after commenced. Cramps were developed at 6. *Symptoms*—Vomiting and purging, intense thirst, voice whispering, skin cold, clammy, and corrugated on the fingers, cramps, partial suppression of urine. Death in 35 hours."

"CASE 5.—*Admitted September 16th*, 1854. Ellen M., aged 29, went to bed well last night, slept soundly, and arose, feeling as well as usual this morning. At 8 o'clock, violent vomiting and purging came on, and cramps at 9. On careful and minute inquiry, no evidence could be elicited that previous diarrhœa had existed. *Symptoms*—Vomiting, purging, thirst, skin cold and blue, suppression of urine. Death in 25 hours."

"CASE 6.—*Admitted September 22d*, 1854. Margarette M., aged 36, having felt and slept well the preceding night, was attacked with vomiting and purging at 5 yesterday morning, and cramps at 6. She was carefully interrogated when admitted, and again after her recovery, but no evidence that she had liquid discharges prior to the onset of cholera could be elicited. *Symptoms*—Vomiting and purging of rice-water fluid, thirst, feeble voice, skin cool, suppression of urine, cramps."

To the above cases we have the following reply :—

"That cases fourth, fifth, and sixth had each a premonitory diarrhœa for an hour, by Dr. Hutchison's own admission; and, further, the reports of these cases are such that they do not justify the conclusion that those individuals were in perfect health, and free from diarrhœa, before the moment at which they are said to have been first attacked with vomiting and purging."

It will be observed that the declaration, "that each case had a premonitory diarrhœa for an hour," is based on the idea that cholera does not exist until cramps are developed. Whether the cases are reported with sufficient care to justify the conclusion that the patients were or were not free from premonitory diarrhœa, and whether it was necessary to burden my report with further details of the inquiries which led to this conclusion, I leave for the decision of others.

It is objected further :—

That, "the mere statements of patients, that they were perfectly well, that they slept well, that they ate their food as usual, is no proof that they were not laboring for a few hours, a few days, or a few weeks under diarrhœa." It is surprising that the additional "statement of the patients" was omitted, viz.: that they had no liquid discharges before the sudden development of the symptoms detailed. In commenting on all of the above cases in my report, it is stated: "The patients not only felt well, slept well, and ate as usual, but, *on the most careful inquiry, it was ascertained that nothing like a diarrhœa, no liquid discharges had preceded the severe attack.*"

I regret that Dr. Macloughlin has given cause for a suspicion of unfairness, by omitting the important portion of the sentence which I have italicised. These patients surely could have had no motive for deceiving; and if the "mere statements of patients," when carefully elicited, cannot be accepted, (especially when corroborated by their friends, as in the first and second cases), how is it possible ever to obtain a perfect history of any case?

In conclusion, Dr. Macloughlin's opinion, that cholera does not exist until cramps appear, enables him to declare that the fourth, fifth, and sixth cases had each a premonitory diarrhœa for an hour, according to my own showing, for it is recorded that *cramps* did not appear until an hour after the sudden attack of vomiting and purging. He might have made the same disposition of the first case. Admitting the correctness of his definition, there still remain two cases, to which, unfortunately, it cannot furnish a satisfactory reply; for, it will be remembered that in the second case there were no cramps, and in the third, vomiting, purging, and *cramps* occurred simultaneously. In replying to these cases, he relies on the gratuitous assertion, not directly, but by implication, that as the patients had cholera, they must have had premonitory diarrhœa and cramps.

But, if we admit the well-established fact, that cramps are a non-essential symptom of cholera, the objections to the fourth, fifth, and sixth cases are removed, and they stand as illustrations that cholera may occur without premonitory diarrhœa. The mere assertion, that "the reports of these cases are such that they do not justify the conclusion that those individuals were in perfect health and free from diarrhœa, before the moment at which they are said to have been first attacked with vomiting and purging," is worthless as an argument. The bare assertion of *novel facts*, even though it emanate from sources whose honesty and good faith we cannot doubt, will not be accepted. For the rigorous exactness to which medical science is aspiring demands that all its facts be based on the most indubitable evidence of their truth.

Whether, therefore, we admit that the choleraic stage commences with cramps or not, it has not been demonstrated that I have by my own showing proved that the six cases, published as exceptions to "the invariable rule," had a premonitory diarrhœa; and I think Dr. Macloughlin's candor will compel him to admit this to be so, although his ability to establish an invariable rule might be gratifying to himself, as well as others who rely more on his statements on this subject than their own investigations.

Art. VI.—*Bandaging with Adhesive Strips after Parturition.* By W. M. Ryer, M. D., Stockton, California.

In a case of mania following parturition, I was induced to apply strips of adhesive plaster instead of the bandage used ordinarily for the support of the abdominal walls. This application answering the indications so admirably, caused me to use the same means in several subsequent but uncomplicated cases, wherein I found similar beneficial results.

In cases where there is much looseness of the muscles and integument, constituting that peculiar flabbiness of the abdomen so often met with among women who have had several children, I have found no abdominal supporter or bandage which furnishes equally satisfactory results.

In several uterine affections, depending upon the relaxed condition of the tissues of the lower part of the abdomen, I have also witnessed remarkable benefit arising from the application of this remedy, when other abdominal supporters have failed to give relief.

The patient being in a recumbent position, I apply the bandage in strips, from one and a half to two inches wide, and of sufficient length to pass two thirds around the pelvis. Commencing above and behind the trochanter major, and passing immediately above the pubis to a corresponding point on the opposite side from the place of beginning, I usually apply these strips to within an inch of the umbilicus, closely drawn when near the pubis, and gradually relaxed as we approach the umbilicus. Should I desire firmness, I then apply additional strips over the others, commencing from below.

This system of bandaging the abdomen after labor is so satisfactory, and so permanent, in comparison with the cloth-bandage and other kinds used, as to induce me to bring it before the profession.

ART. VII.—*Report of a case of Hydrophobia; with Statistical Observations.** By J. LEWIS SMITH, M.D., Physician to the Northwestern Dispensary, New York.

ON Tuesday, March 20th, I was called to see a German, living on 64th street. Soon after my arrival, Dr. Büchler, an intelligent German, also arrived, and we examined and treated the patient together. He was a man of about 45, temperate and laborious, supporting his family by gathering old clothes through the city.

The friends told us that his health had been uniformly good till March 16th, when he began to feel a soreness and stiffness in the muscles of the right hand and forearm, and in those covering his neck. With this commencement his condition had become gradually but progressively worse, in spite of the efforts of an irregular, and at our visit the disease was so fully established, that both suspected at once its true nature.

His countenance was pallid and anxious, eyes bright, and his respiration at brief intervals short and hurried, best expressed, perhaps, without any superstitious reference, by the term panting. These paroxysms of dyspnœa began and subsided suddenly, leaving him free from pain, and calm, unless disturbed.

He talked freely, and at times in a loud voice, of his complaint, believing it rheumatic. He had not slept from the first, and though his appetite was good, the difficulty of swallowing had prevented his eating. Tongue moist and thinly coated; no nausea; did not complain of thirst; bowels constipated; pulse 100, full; surface of natural temperature.

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* Read before the Society of Statistical Medicine, New York.

There was no swelling about the throat, and pressure and percussion over the occiput and cervical vertebræ gave no pain, but the muscles on the sides and back of the neck were tender.

We gave him a bit of bread, which he chewed and swallowed, by a strong effort of the will, with difficulty. On trying him with water, the sight of the liquid, he said, increased the sensation of stiffness in his forearm, and when he attempted to bring the spoon to his mouth, his hand shook violently, and his agitation and dyspnœa were extreme. In his paroxysms he resembled one violently delirious, springing up in bed, and occasionally rushing forward to a post in the room, to which he clung till relieved.

On our asking if he had been bitten by a dog, he said that from four to seven months ago, in attempting to separate his own and another dog, he was bitten slightly on the hand by the latter. The wound healed readily, leaving little or no cicatrix. His dog was shown us apparently healthy; the other was owned in the vicinity, and was disposed of in the city soon after the bite was inflicted. What became of it is not known. His master denied that he had observed anything unusual in the animal, but some of the neighbors have since told Dr. Büchler that it acted strangely, running directly against objects, and showing unwonted moroseness and restlessness. We prescribed;—

Oleum Tiglii,
Ext. Bellad. Externally to throat.
Enemata of Beef Tea and Tr. Opii.

March 21*st.* We visited him again, and found his condition to all appearance much better. Six injections had been given, containing about ʒii of laudanum, and he had slept a little in the morning. Only three attacks of dyspnœa had occurred since the treatment was commenced, and he had taken about a pint of soup. He seemed revived and cheerful, and we began to doubt the accuracy of our diagnosis. He now had, however, stiffness in his left hand and forearm, that in the right continuing.

He took a little milk in our presence, but, on our proposing water, his agitation was so great that we did not urge him to take it. His aversion to water was stronger than to other liquids. Milk and soup he could swallow as easily as solid substances. The pulse was full, and varying suddenly without apparent cause. Two examinations, at a brief interval, gave 88 and 120 pulsations per minute. Treatment of throat continued—enemata to move the bowels, and afterwards of beef tea, adding laudanum at night, if no rest.

March 22d. Learned that he had died about midnight. After we left him on the 21st, he remained comfortable till about 4 P.M., when his bowels began to swell and pain him, and he could not pass his urine. His mind, for the most part calm and rational, occasionally wandered, and towards the close of life his attendant says he was, at times, furious. There was no more dyspnœa, his limbs remained warm, and his death was easy.

Autopsy 15 *hours after death.*—Present Drs. Büchler, Sewall, Watts and myself. Marked hypostatic congestion of surface; rigor mortis. The membranes of the brain were universally injected, and the glandulæ Pacchioni abundant and some of them unusually large. Upon the crown of the head, at the seat of these glandulæ, the arachnoid was raised by a clear serous effusion, to the amount, perhaps, of ℥ss. The cerebrum appeared natural, but the consistence of the cerebellum was diminished. In other respects, the brain and spinal cord, examined as low as the origin of the par vagum, seemed healthy.

There was nothing unusual in the appearance of the larynx, except that it contained a little mucus.

The dark gray substance so often mottling the lungs of the cadaver existed in great abundance over this organ, on both sides, and the intestines were much distended with gas. Otherwise, the thoracic and abdominal viscera presented their usual appearance.

Since this case came under observation, most of my leisure time has been spent in collecting records of hydrophobia. From the various medical journals accessible to me, I have obtained histories, more or less complete, of about two hundred supposed cases, besides brief notices of others. In analyzing these records care has been taken to reject, from our first table, all which did not give indubitable proof of canine madness, from the known rabidity of the animal inflicting the bite, pain, or some sensation in the cicatrix at the beginning of the disease, or other equally decisive facts. Such care has been necessary, because hydrophobia may be simulated by hysteria, inflammatory disease of the throat, and perhaps other affections.

The most extensive collection of hydrophobia cases yet made, so far as I am aware, was by Dr. Hamilton, of Edinburgh, at the close of the last century; but his object seems to have been not so much to investigate the nature of the disease as to determine its period of incubation. The published records are very numerous, and the statician has an ample field in the study of this complaint; yet most that has been written on this subject is based on a very limited number of cases. We have not had access to many of the continental journals, but most of the British and American have been examined, and from them these materials have been chiefly drawn.

It is a common belief, in and out of the profession, that rabies, if once developed in man, is invariably fatal. For this reason, records of favorable cases, which, bating the result, appeared in every way genuine, have not been retained in our first collection.

In the following table, the patients were males, and bitten by dogs, unless it be otherwise stated. For the sake of brevity, hours, days, weeks, months, and years, are represented by their initials, unless it be otherwise stated:

NO.	SEX—AGE.	PART INJURED—ANIMAL.	INCUBATION.	DURATION OF PRODROMES.	DURATION OF DISEASE.	AUTHORITY.
1	11	Upper lip....................	5 w.	1 d.	1 d.	Robert M. Kerrison, *Lond. Med. Repos.*, 1814.
2	34	Left leg....................	36 d.	12 h.	2 d.	Geo. Pinkard, " " " 1815.
3	3½	Upper lip	34 d.	12 h.	14 h.	Dr. Bellingham, " " " "
4	5	Face, head	18 d.	12 h.	2½ d.	Mr. Greening, " " " 1819
5	F. 30	Left foot..................	3 m.	4 d.	2 d.	" " " " " "
6	12	Right hand	128 d.	3 d.	3 d.	W. C. Dendy, " " " 1822.
7	57	Hand.—Cat..................	45 d.	3 d.	2 d.	W. T. Iliff, " " " 1824.
8	44	Forefinger, thumb...........	4 m.	No Prod.	40 h.	H. Whitmore, " " " 1825.
9	F. Adult.	Arm.—Cat	7 m.	1 w.	36 h.	*Lond. Med. & Phys. Jour.*, 1817.
10	21	Hand	11 w.	1½ d.	12 h.	J. Black, *Lond. Med. Gaz.*, Dec. 1827.
11	30	L. ring-finger, calf of leg.—Cat	9 w.	3 d.	1½ d.	Dr. Hue, " " " Mar. 1828.
12	60	Left hand	1 m.	....	....	F. Godrich, " " " Dec. "
13	4	Face	7 w.	1 d.	2 d.	Rec. Lond. Hosp., " " " June 1832.
14	F. 11	Right forearm	18 d.	1 d.	2 d.	F. Badgley, " " " July "
15	14	....	3 m.	1 d.	1 d.	W. T. Cox, " " " Sept. 1833.
16	19	—Cat..........	101 d.	1 d.	3 d.	M. Mopinot, " " " Aug. 1835.
17	11	Leg........................	80 d.	2 d.	2 d.	Chas. Thornhill, " " " Sept. "
18	20	Thumb	10 w.	No Prod.	42 h.	Fred. Pritchard, " " " Feb. 1836.
19	F. 37	Left arm and ankle	7 w.	2 d.	1 d.	Wm. England, " " " April "
20	17	Right wrist................	6 w.	....	....	T. B. Curling, " " " Aug. "
21	26	Left cheek..................	5 w.	36 h.	2 d.	F. C. Jones, " " " Oct. 1837.
22	12	....	2 m.	....	30 h.	" " " " " " "
23	28	Three fingers................	2 m.	1 d.	2 d.	F. Hawkins, " " " Nov. "
24	72	....	15 m.	4 d.	2 d.	Dr. Burne, " " " Apr. 1838.
25	F. 53	Right hand..................	64 d.	12 h.	36 h.	J. W. Ilott, " " " Oct. "
26	13	Right hand.	50 d.	No Prod.	2 d.	C. Hawkins, " " " June 1844.
27	28	....	5 m.	6 h.	30 h.	C. Dawson, " " " 1849.
28	16	Head, back, right arm, leg...	99 d.	12 d.	30 h.	" " " " "
29	F. 37	Right thumb.—Cat...........	over 3 m.	10 to 12 d.	60 h.	T. L. Wells. " " " June 1849.
30	27	Forearm....................	49 d.	1 d.	3 d.	Mr. Key, *Lond. Lanc.*, Sept. 1824.
31	15	Left thumb and finger	1 m.	1 d.	2 d.	Thos. Renwick, " " May 1825.
32	23	Wrist......................	9½ w.	....	4 d.	Guy's Hosp. Reports, " " Feb. 1826.

NO.	SEX—AGE.	PART INJURED—ANIMAL.	INCUBATION.	DURATION OF		AUTHORITY.			
				PRODROMES.	DISEASE.				
33	Adult.	Hand	5 w.	1½ d.	36 h.	P. Gaspard,	*Lond. Lanc.*,		1826.
34	17	Left hand	7 w.	....	2 d.	Guy's Hosp. Repts.,	" "	May	1826.
35	25	Right forefinger	9 w.	4 d.	2 d.	Dr. Latham,	" "	July	1826.
36	13	Cheek	56 d.	3 d.	2 d.	Henry Pout, Esq.,	" "	June	1827.
37	22	Foot, thigh, hand	....	Several w.	2 d.	C. Jenkins,	" "	July	1827.
38	16	....	....	2 d.	1 d.	Dr. Elliotson,	" "	May	1829.
39	Adult.	....	3 m.	12 h.	36 h.	Dr. Johnstone,	" "	Aug.	"
40	31	Foot	6 w.	3 d.	1 d.	Lanc. Franc.,	" "	"	"
41	45	....	46 d.	1 d.	1 d.	Chas. Brady,	" "	June	"
42	56	Cheek	4 w.	12 h.	3½ d.	Hamb. Hosp.,	" "	July	"
43	53	....	3 m.	2 d.	1 d.	W. Simpson,	" "	Oct.	1831.
44	15	Right little finger.—Cat	8 w.	1 d.	2 d.	Dr. Elliotson,	" "	"	"
45	46	Hand.—Fox	6 w.	1 d.	1½ d.	Lond. Hosp.,	" "	July	"
46	Boy.	Left leg	7 m.	4 or 5 d.	1 d.	J. G. Davey,	" "	Febr.	1837.
47	66	....	125 d.	....	2 d.	Westminst. Hosp.,	" "	March	"
48	F. 23	Leg	66 d.	12 h.	1 d.	Geo. Tucker,	" "	May	"
49	F. 26	Upper lip	....	112 d.	2 d.	Mr. Hutchison,	" "	Dec.	1838.
50	31	....	56 d.	1 d.	2 d.	H. Bateman,	" "	Febr.	1844.
51	8	Upper eyelid	59 d.	1 d.	2 d.	H. H. Walton,	" "	May	"
52	12	Right ankle	1 y.	2 d.	1 d.	Robert Allan,	" "	Sept.	1847.
53	5	Face	6 w.	7 d.	1 d.	George Fife,	" "	March	1849.
54	6½	Left eyebrow	37 d.	....	3 d.	R. Grinrod,	*Med. Chir. Rev.*,	July,	1834.
55	47	Left hand.—Cat	5 w.	2 d.	2 d.	J. F. Pettigrew,	" " "	Jany.	1835.
56	Adult.	Hand	7 to 8 w.	2 d.	1 d.	" "	" " "	"	"
57	70	Right eyebrow	5 w.	No Prod.	3 d.	W. Jackson,	*Prov. Med. & Sur. Jo.*,	Dec.	1842.
58	8	Left eyebrow	10 w.	" "	3 d.	" "	" " " " "	"	"
59	4	Two fingers	158 d.	1 d.	1 d.	E. Parker,	" " " "	"	1848.
60	18	Left wrist	4 m.	....	50 h.	H. Jackson,	" " " "	Nov.	1844.
61	48	Right forefinger	6 w.	½ d.	3 d.	J. Aikenhead,	" " " "	Sept.	1846.
62	5	Under lip	27 d.	Few h.	2 d.	S. B. Denton,	" " " "	"	1849.
63	42	Left finger	6 m.	6 h.	30 h.	Dr. Sandwith,	" " " "	"	1850.
64	3½	Face, nose	22 d.	2 d.	30 h.	Repts. Cumberland Inf.,	" " "	"	"

65	F. 7	Eyelid	19 d.	½ d.	2 d.	*Med. Times,* Dec. 11, 1841.
66	7½	Arms, leg, face	47 d.	Few d.	2 d.	W. H. Booth, " " Feb. 1843.
67	F. 9½	Calf of leg	13 w.	18 h.	40 h.	W. H. King, " " Nov. 4, 1843.
68	11	Left little finger	20 d.	3 d.	29 h.	W. Foley, *Med. Times,* May 25, 1844.
69	F. 13	Face	4 w.			Dr. Hooper, " " May 17, 1845.
70	Adult.		9 w.	Few h.	4 d.	Balt. Free Press, " " May 6, 1848.
71	19	Left leg	5 or 6 y.	2 d.		Dr. Hughes, *Med. Times & Gaz.,* May 27, 1854.
72	18		11 m.	2 d.	12 h.	Dr. Brandreth, *Edin. Jour.,* Jan., 1825.
73	Adult.	Both wrists	267 d.		2 d.	" " " " " "
74	15	Right arm	32 d.	2 d.	3 d.	J. A. Sidey, *Month. Jour. Edin.,* Dec. 1850.
75	8½	Right eyebrow	31 d.	Few h.	2 d.	Jas. Struthers, " " " Jan. 1851.
76	F. 20	Face, back	98 d.	12 h.	2 d.	Prof. Lawrie, Jr. " " " Sept. 1852.
77	Adult.	Right hand.—Wolf	5 w.	1 d.	2 d.	B. Gaspard, *Rev. Med.,* March, 1824.
78	24	Arms, legs.—Wolf	41 d.	Few h.	9 d.	Prof. Recamier, " " Aug., 1824.
79	48	Finger.—Wolf	32 d.	2 d.	2½ d.	M. Lepine, " " " "
80	F. 52		5 m.	6 h.	2 d.	Dr. Godelle, " " Sept., 1831.
81	Adult.		4 w.			Prof. Dieffenbach, *Rusts' Report.*
82	F. 10	Right arm	174 d.		2 d.	Dr. Fuchs, " " 1829.
83	15	Hand.—Cat	44 d.		2 d.	" " " " "
84	40	—Cat	10 m.	6 d.	1 to 2 d.	Dr. Mayer, *Hufeland's Journal.*
85	14		31 d.	1 d.	2 d.	Dr. Marshall, *Tract on Hydroph.*
86	45	Scrotum	42 d.	3 d.	40 h.	H. Oldknow, *Edin. Med. & Surg. Jour.,* 1809.
87	52	Left hand	17 d.	36 h.	30 h.	M. Labonardiere, *Bibleoth. Med.,* Aug., 1821.
88	5½	Left eye	3 w.			*Jour. de Phys.,* 1822.
89	14		45 d.	5 or 6 d.	1½ d.	M. Cassan, *Arch. General.* 1825.
90	F. Adult.	Leg	201 d.	5 d.	3 d.	Dr. Urbane, *Bib. Prac. Heil.* 1827.
91	28	Right thumb	6 w.	3 d.	1 d.	Dr. Consture, *Jour. Hefd.* 1829.
92	10	Upper lip	27 d.			Dr. Richiedei, *Lassana in Gaz. Med.* 1852.
93	Boy.	Hand		Few h.	24 h.	Abernethy. *Lecture on Hydroph.*
94	55	Middle finger	97 d.	24 h.	40 h.	Dr. Chairetes, *Dub. Med. Press.*. Sept. 7, 1853.
95	Adult.	Right hand.—Fox	6 w.	Few h.	36 h.	Dr. Howman, *Phil. Trans.* Vol. iii.
96	"	Right hand	10 w.	2 d.	4 d.	Dr. Watson, *Lecture on Hydroph.*
97	F. 15	Face	28 d.		15 h.	Dr. Marochetti, *Art. Hydroph.*
98	F. 40	Face, forearm, thigh.—Wolf	26 d.		4 d.	M. Ferrus, *Trans. of Royale Acad., Paris.*
99	F. 70	—Wolf	3½ m.			" " " " "

NO.	SEX—AGE.	PART INJURED—ANIMAL.	INCUBATION.	DURATION OF PRODROMES.	DURATION OF DISEASES.	AUTHORITY.
100	15	Face.—Wolf................	13 d.	....	4 d.	M. Ferrus, *Trans. of Royale Acad., Paris.*
101	65	—Wolf	2 m.	....	....	" " " " "
102	Adult.	Left hand................	6 to 8 w.	....	2 d.	Dr. Bright, *Reed. of Cases.*
103	52	Upper lip	5 w.	No Prod.	48 h.	Dr. Bright, *Rec. of Cases.*
104	Adult.	....	4 m.	" "	48 h.	" " " "
105	"	Hand........................	3 m.	Few h.	57 h.	" " " "
106	17	Right middle finger	1 m.	Several d.	1 to 2 d.	Prof. Plumer, *Ed. Med. Ess.* Vol. V., 1777.
107	Adult.	Fingers......................	31 d.	No Prod.	24 h.	Dr. Middledorff, *Gunsburg's Zeitsch.*, Aug. '52
108	6	Face	10 d.	1 d.	2 d.	Dr. A. King, *N. Y. Med. Repos.*, Vol. 1.
109	43	Ear	4 w.	1½ d.	2 d.	Conn. Cour., " " " "
110	16	Foot.........................	5 w.	12 h.	1½ d.	Dr. P. S. Physic, " " " 2.
111	13	Forearm.....................	84 d.	Several d.	3 d.	Dr. S. Borrowe, " " "
112	13	Ang. of eye.................	101 d.	36 h.	3½ d.	Dr. J. R. B. Rodgers, " "
113	11	Finger	12 m.	12 h.	20 h.	Dr. J. R. Coxe, " " "
114	11	Left thumb.—Raccoon........	42 d.	1 d.	3 d.	Dr. Geo. Russel, *New Eng. Jour.*, 1823.
115	7	Eyelid, lip	30 d.	30 h.	2½ d.	G. Hayward, M.D., *Bost. M. & S. J.*, Jan. '54.
116	15	Leg, ear	28 d.	1 d.	2 d.	Chas. D. Homans, M.D., " Mar. '54.
117	Adult.	Hand.......................	57 d.	1½ d.	36 h.	J. S. H. Fogg, M.D., " Apr. '54.
118	8	....	1 y.	2 or 3 d.	2 d.	Thos. W. Blatchford, M.D., " July '54.
119	28	Hand........................	6 w.	Few h.	4 d.	Jas. Thorne, M.D., " " "
120	12	....	46 d.	2 d.	7 d.	Dr. Hartshorn, *Amer. Jour.*, October, 1848.
121	30	Hand	1 to 2 m.	1 d.	2 d.	Dr. S. Jackson, " " " 1849.
122	18	Right wrist..................	98 d.	3 d.	1 d.	Dr. Curtis, " " " "
123	7	Left little finger	3 w.	12 d.	12 d.	Dr. Coale, " " Jan., 1849.
124	40	Finger	3 w.	....	2 d.	Dr. Barton, *Phil Med. & Phys. Jour.*, 1820.
125	23	Finger	21 d.	1 d.	4 d.	Dr. Herron, *Western Jour. of Med.*, 1836.
126	Adult.	Left hand....................	44 d.	4 d.	3 d.	Dr. Thos. W. Blatchford, *Annalist*, Dec. '47.
127	3	Arm	Several m.	54 h.	54 h.	Dr. Dickson, *South. Jour. of Med.*, May, '47.
128	18	Right forearm	68 d.	1 d.	14 h.	Dr. A. H. Brown, *Ohio Med. & Sur. Jour.*, '48.
129	6	Thirty-one wounds	73 d.	....	4 or 5 d.	Dr. Thacher, *Treatise on Hydroph.*
130	78	Finger	90 d.	4 d.	8 d.	" " " "
131	F. Adult.	Hand.—Cat	45 d.	8½ d.	2½ d.	Drs. Brewster & Childs, "

Nine of the patients in the above table were 5 years old, or under, fourteen from 5 to 10, inclusive of the latter age, thirty-nine from 10 to 20, inclusive, twenty-five from 20 to 40, seventeen from 40 to 60, and five over 60. The relative frequency of hydrophobia in the different periods seems to correspond closely with the degree of activity and exposure. Again, the fact that infancy is not exempt, shows the fallacy of the doctrine which imputes the disease entirely to fear.

Only eighteen of the number were females. So great a disproportion of the sexes is, perhaps, due to a difference of occupation; a disproportion noticed also in tetanus, a complaint, in many respects, so similar.

The records enable us to give the months when 102 patients were bitten, and 107 became hydrophobic, as follows:

	Bitten.	Hydroph.		Bitten.	Hydroph.
January	5	10	August	13	6
February	7	6	September	13	10
March	5	7	October	10	11
April	8	5	November	6	18
May	9	9	December	9	4
June	11	11			
July	9	10		102	107

This table shows how little the disease, both in man and in animals, is dependent on the state of the atmosphere; and yet in some countries rabies is most prevalent at particular seasons. In certain provinces of France, and in Northern Europe, cases are most numerous in cold weather, the disease being communicated by wolves made rabid, it is thought, by hunger.

Of the cases occurring in the United States, 4 were bitten in winter, 3 in spring, 5 in summer, and 5 in autumn; 3 became hydrophobic in winter, 4 in spring, 2 in summer, and 9 in autumn. It follows that if there be any sanitary regulation for the prevention of hydrophobia, it should be in force the whole year.

The period of incubation, reckoned from the time of the bite till the commencement of preliminary symptoms, was as follows:

Cases.		Cases.	
In 1	10 days.	In 13 from	5 to 6 w.
“ 1	13 “	“ 19 “	6 to 8 w.
“ 1	17 “	“ 13 “	8 to 10 w.
“ 2	18 “	“ 15 “	10 to 14 w.
“ 1	19 “	“ 14 “	14 w. to 6 m.
“ 1	20 “	“ 9 “	6 m. to 12 m.
“ 4	3 w.	“ 1 “	15 m.
“ 10 from	3 to 4 w.	“ 1 “	5 to 6 y.
“ 18 “	4 to 5 w.		

There might be some doubt about the genuineness of this last case, but the patient, besides presenting the ordinary symptoms, and post mortem appearances, complained of pain in the bitten part.

The condition of the wound, at the time hydrophobia appeared, is recorded in eighty-one cases, in seventy-five of which it had cicatrized. In the other six, the wounds were healthy, and progressively healing—in two, having nearly closed. One of these (No. 78), was remarkable for the long duration of the disease—nine days. In this case, a free suppuration commenced on the fourth day, with a marked mitigation of the symptoms. In another (No. 108), the suppuration ceased, and the wound became dry, when the hydrophobic symptoms began. In no case was there a free discharge from the bitten part, if these symptoms were severe. These facts teach us a useful lesson in reference to the treatment.

In twenty-one cases, the appearance of the cicatrix is given, in six of which, it had a reddish color, or bluish, with red around. In two others, there was an inflammatory, and in two more, a raised appearance. Of the remaining eleven, one showed a loose attachment of the cuticle; one, a point of ecchymosis; another, an unusually dark hue, and eight bore a natural aspect. Probably, in the majority of cases, there was no visible change in the scar, else the records would not have been so silent on this point. Nor, with a single exception, do I find any change recorded in the superficial appearance of parts adjacent to the cicatrix. This exception occurred in Mr. Abernethy's practice, who noticed two red lines extending up the arm, apparently inflamed absorbents. I call attention more particularly to this point, because the bitten limb is often the seat of pain, as we shall see; and it is an open question whether this pain follows the course of the nerves, or absorbents.

It has been held by some, that hydrophobia may be communicated by a bite, though the cuticle remain entire. The records give only one instance (No. 96,) of a simple indentation; and when we recollect how easily a slight breach might escape detection, we may well doubt whether an inoculation ever occurs through the sound skin.

In this connection we may as well state that, with two exceptions (Nos. 49 and 109), the disease was in every instance communicated by a bite. In one of these exceptional cases the rabid animal leaped so furiously against the mouth of its mistress as to loosen a tooth. In the other the dog was allowed, the day before it became rabid, to lick a sore in the ear. Hydrophobia, after an incubation of four weeks, began in this patient by a pricking pain in that organ.

Of the animals producing the wounds, four were wolves, ten cats, one a fox, one a raccoon, and the rest dogs. All the wolves were probably rabid at the time of inflicting the injury, their exact history not being known, from the difficulty of observing wild beasts for any length of time. One of them proved its rabidity by communicating the disease to four individuals.

Of the cats, one showed no signs of rabies; another, though apparently well, had been bitten by a rabid dog; two were already mad, and another, sick at the time, became so afterwards.

The raccoon was in a wild state and killed. The fox was tame, and being teased in its cage. It appeared in good health, but, a few days after, died in such a way as to excite the suspicion of its having been poisoned.

Thirty-nine, at least, of the dogs were in confirmed rabies when the wounds were produced. One of these was a lapdog in a neighborhood where a rabid animal had not been known for years. This dog also bit a puppy, which went muscular power, etc. The exanthem disappeared in about the usual time; but the ulceration of the fauces and pharynx continued for many weeks. A few days after phlebotomy had been performed, I discovered that the ulcerative process had been instituted in the edges of the incision in the integument and subcutaneous areolar tissue. The ulcer gradually spread in circumference, until its area was equal to that of a double eagle, or greater. At this point it remained stationary for a week or more; and then, under the persistent application of the tincture of myrrh, *pari passu*, diminished in extent until finally, after a protracted continuance of eight or more weeks, it entirely disappeared. Shortly after my discovery of the ulcer on the bend of the elbow, I observed an abscess upon the external border of the opposite forearm: this was punctured and several ounces of pus were discharged. Almost simultaneously with this, another abscess was seen upon the belly of the biceps flexor cubiti of the arm in which the patient had been bled. The contents of this were evacuated spontaneously through the orifice of venesection. At intervals of a few days other abscesses successively arose upon the occiput, the infra-spinous fossa of the left scapula, in the left axillary region of the thorax, upon the internal surface of the left arm, the epigastrium, the sacrum, underneath the inferior maxilla, upon the external aspect of each hip-joint, etc., some of which, upon being lanced, poured fourth 16 or 20 ounces of a fetid, sanious pus. In a portion of these instances of abscess, location seemed to have a predisposing agency, those parts of the body upon which its weight occasioned pressure being, *certeris paribus*, more obnoxious to suppuration than others: those of the scapula, sacrum and hips are examples.]

In passing, let me here remark, that these abscesses very distinctly exhibited to the sense of touch the characteristic *bogginess* or *quagginess* of abscesses resulting from diffuse areolar inflammation. Moreover, during the activity of the local inflammatory action preceding the formation of the abscesses upon the hips, the pain experienced in those parts was intolerably severe; a phenomenon, doubtless, explicable, by supposing the inflammation to have been seated, partially at least, beneath the fascia lata, which, by its compressing influence upon the congested and distended blood-vessels, occasioned that excess of suffering characteristic of inflammation underneath dense fibrous structures. Irritative fever, as indicated by a frequent pulse (ranging from 110 to 140), great debility, restlessness and anxiety, depression of spirits, etc., was also plainly discernible.

As might reasonably be anticipated, so profuse and continued a suppurative discharge excessively reduced my patient; so much so, in truth, that for a long time, in spite of nutritious diet, wine and bark, the scales of life and death fearfully oscillated, and even now the incertitude is scarcely less. In addition to the exhausting purulent discharge from the superficial areolar tissue, vast quantities of pus, often specked and streaked with blood, were expectorated. This doubtless, in part proceeded from the ulcerating surface of the throat, but its excessive amount would seem to have involved the existence of a vomica or an hepatic abscess, seeking an outlet through the channel of the air passages. Indeed, my apprehensions for the safety of my patient have, at times, been considerably intensified by observing now and then temporary symptoms of hectic; their transient continuance, however, emboldens me to hope against hope.

Remarks. This relationship of incidents suggests to the investigating medical mind, several queries.

1st. Was this erysipelatous inflammation a true sequela of the scarlatina?

Or, 2dly, was it excited by the venesection?

3dly. Is there any similarity between the respective poisons of scarlatina and erysipelas, or can one be metamorphosed into the other?

Before venturing upon a rejoinder to either of these interrogatories, let me premise, for the satisfaction of those who may be inclined to regard these abscesses of the superficial fascia as the results of simple inflammation, or I should rather say, of what may be named *scarlatinous* inflammation, be it simple or specific, that no author, so far as my reading extends, makes the slightest allusion to any such idea. Moreover, does not the diffusive nature of the phlegmasia forever interdict such a belief?

In reply to the first of these interrogatories, I will say that, although cases precisely similar to the one just rehearsed, are not recorded by any of those European and American authorities which I have had an opportunity of examining yet several writers concur in enumerating, among the sequelæ of scarlatina, abscesses of the testis, the joints, the ear, in the vicinity of the parotid and submaxillary glands, etc.

Now, though many of these are, in all probability, *simple* abscesses, still, it must be remembered, it is equally probable that as many are of erysipelatous origin, especially such as are found in the glandular structures, which are lined by prolongations of mucous membrane, the testis, for example; for it is well known that erysipelatous inflammation frequently seizes upon mucous membrane, which is in reality but an extension of the tegumentary tissue. Nor, indeed, do I see anything to forbid the reference of every variety of these abscesses to the same peculiar phlegmasia, as a cause, for we are authorized in believing that erysipelas may invade most, if not all, of the tissues of the body.

Though the erysipelatous character of the areolar inflammation, in the case of my patient, and the supposition of the existence of the same nature in the inflammatory action preceding the formation of the abscesses, referred to by authors, *would seem* to preclude the possibility of their being sequelæ of scarlatina, still, with the aid of a little theorizing, this possibility can easily be established.

To substantiate the doctrine embodied in the affirmative reply to this query, it becomes necessary to prove the possibility of the generation of the peculiar poison of erysipelas in the bodies of those affected with scarlatina, as an unequivocal consequence of the last-named disease, either by revealing it as the virus of scarlet fever, more or less modified in character, or as produced by the chemical action of the same virus upon the material particles of the body or its secretions, or as resulting from the pus which, in many cases, is so abundantly formed in the throat, or in a combination of two or more of these agencies.

Although the proof of the convertibility of the virus of scarlatina into that of erysipelas would, in the existing state of our knowledge, be to him who should attempt it as the distruction of the Nemean lion was to all, in its far-distant time, save Hercules, an impossibility, still I regard the theory which asserts that convertibility as a very plausible one, and, moreover, one which future science will declare to be tenable in part, at least, if not in its entirety.

A few facts may here be named which, though they do not directly serve as convincing demonstration, yet have a sensible inclination toward the reality of the hypothesis, which declares the possibility of the generation of the erysipelatous poison through the agency of scarlatina.

Firstly.—It is an observed truth, that scarlatina and erysipelas not unfrequently rage contemporaneously in the same locality, in corroboration of which, I may cite an instance within my own cognizance. The two diseases have been in synchronous activity in my own vicinage the past spring.

Secondly.—The two diseases are members of the same nosological order of Cullen, the exanthemata, a place justly assigned them from a thorough conviction of the similarity of their phenomena, and we may thence fairly infer, of the essential natures of their poisons, to some extent, as well. I would not be understood as here asserting, that I regard the various poisons of scarlatina, variola, rubeola, erysipelas, the plague, etc., as identical, or even necessarily similar, in intimate composition, but, simply, that they all possess a sufficient degree of resemblance in property to justify the appellation of "congeners," as embodied in the grouping together of these several pyrexiæ. Let us call to mind the old axiom—"Like causes produce like effects."

And, *Thirdly.*—These two eruptive fevers imitate each other much more closely, even in the minor stages of their progress, than any other two of the same order. The greater disposition to the formation of abscesses and to ulceration in these than in the other exanthemata, may be named in this connection, though, it is true, the one manifests a preference for the throat, ear, testes, joints, etc., the other, for the integument, subcutaneous areolar tissue, mucous membranes, etc. The efflorescences in the two varieties of disease, moreover, possess some characteristics in common, particularly the simplex type of the one, and the erythematous of the other; and I do not hesitate to believe that, as the exanthem of erysipelas evidences inflammation, so also does that of scarlatina, although upon the tegumentary surface, of a greatly-modified form. It is also a recorded fact, that sore-throat is as often an accompaniment of erysipelas as of scarlatina, though it by no means terminates in ulceration so often in the former as in the latter disease.

May not the supervention of diffuse inflammation of the superficial fascia upon cynanche maligna, in the case of my patient, be confirmatory of this theory?

Let me be clearly understood. The idea that I wish to convey is this, and this alone:—That it may be possible that the virus of scarlatina may generate in the human system the virus of erysipelas, or, at least, that the changes, organic, chemical, and physical, accomplished in the body of a patient suffering from scarlet fever, may occasionally produce, *de novo*, the virus of the "rose."

Let me now consider the second query—Was the erysipelas of my patient excited by the venesection?

It is, indeed, true, that phlebotomy not seldom occasions the induction of erysipelatous inflammation, and sometimes the variety known as diffuse areolar inflammation; and it is by no means impossible that, in the instance I am now reporting, we have an exemplification of this latter truth, since, as I have before said, erysipelas was prevailing to some extent in my neighborhood simultaneously with the epidemic of scarlatina. Although this reference of the cause, in this particular instance, is the one which modern science would approve and demand, still I see nothing to militate against a justification of my advancing this as a case in corroboration of the theory just propounded, especially since it harmonizes so well in every particular with the details of that theory.

Since an especial consideration of the third query would be substantially but a repetition of much that has already been suggested in this communication, I therefore desist from it.

It may be objected by the opposers of this hypothesis, that the contemporaneous or successive occurrence, in the same locality, of epidemics, of scarlet fever, and St. Anthony's fire, are mere coincidences; or, at most, that the one is superinduced upon the other simply by virtue of the greater susceptibility of the system during, or immediately after, an attack of one to an invasion of the other: this susceptibility being the legitimate consequence of diminished vigor of system.

Admitting that the existing or previous siege of one of the exanthemata may predispose the physical organism, by reason of its debilitating influence, to an attack from another of that order, a difficulty still remains unsurmounted, in the way of the convincing efficacy of this objection. It is this:—No other two exanthemata occur synchronously, in a given district of country, with a frequency at all comparable to that noticed in the occurrence of scarlatina and erysipelas.

May it not be, let me repeat, that the absorption of the putrid pus, which, in the anginose and malignant varieties of scarlet fever, is often so profusely secreted, sometimes institutes erysipelatous inflammation? Analogy strongly fortifies the affirmation of this query. Who does not know that erysipelas may be induced by the suppression of an habitual evacuation, as the purulent discharge from an old ulcer, probably in consequence of the resulting contamination of the blood? Who is ignorant that one of the septic poisons, generated in the bodies of those attacked by various diseases, and particularly inflammations of the serous membranes, puerperal fever, etc., will cause, by inoculation, the severest form of diffuse areolar inflammation? Now, is it at all improbable that poisonous material may be generated in the systems of scarlatina patients, at least of those afflicted with cynanche maligna, very similar to, or identical with, this septic animal poison of the living being or of the cadaver?

May not this have been the case with my patient? May not the putrid pus from the throat, or the degenerated natural secretions of the body, or, even the scarlatina virus itself, modified in its passage through the physical structure, have produced the erysipelas? I feel assured that the first two are adequate causes, and I shall esteem the theory which ascribes equal competency to the last, or, in other words, the opinion that the poison of scarlet fever may, in certain combinations of circumstances, be transformed, in the human body, into the virus of *ignis sacer*, as far from visionary or unfounded.

The chemical composition of these two animal poisons being, as yet, involved in mystery impenetrable by the scientific eye, the difficulty of substantiating this theory is, by consequence, greatly augmented; but I dare to hope, although I may not live to witness the realization of that hope, that future science and accumulated observation will combine to place this hypothesis among the indisputable truths of pathology. In the brilliancy of the light of a coming century, who shall say what may not be revealed?

ART. IX.—*Elkoplasty applied to the Treatment of an Intractable Callous Ulcer of the Leg.* By FRED'K D. LENTE, M. D., Surgeon to the West Point Foundry, N. Y.

TIMOTHY MAHONEY, æt. 68, no particular occupation, applied to me some three months ago with an ulcer about the size of a dime, situated at the middle of the outer aspect of the leg, of which he gave the following history:—That it commenced as a small, hard wart about a year ago, which sometimes pained him a little; this increased slowly in size for a time, and finally ulcerated on the top, having then a flattened appearance. It now began to give him a good deal of pain, the pain being of a gnawing, lancinating character. At the time of his application to me, the ulcer was of the size abovementioned, somewhat elevated above the skin, very hard and callous, with an indolent, granulated looking surface, with no inflammation about the ulcer or the surrounding integument. The pain he described as coming on generally at night, and being so severe as to prevent him from sleeping. General health good, and has always been so. Is capable of making a good deal of physical exertion, notwithstanding his age. I directed him an anodyne mercurial ointment, and he continued to use this for some time with but little benefit; the pain all the time increasing. I then commenced the application of the acid nitrate of mercury freely to the ulcer, and a little beyond it. This has been kept up at intervals for the last two months, with no permanent benefit, but always with relief to the severe lancinating pain. The ulcer has been more than once completely destroyed to below the surface of the surrounding integument, and has at times almost healed over, but it invariably resumes its former appearance. Patient was not subjected to any internal treatment, as there appeared to be no constitutional taint, and the ulcer to be confined solely to the integument.

To-day, February 27th, 1855, as further medical treatment appears not likely to result in any permanent good, I resolved to remove it with the knife, and, having subjected the patient to the full anæsthetic influence of sulphuric ether, proceeded to do so in the following manner:—A square piece of integument, including the ulcer, and extending a little beyond it on all sides, was removed, leaving the aponeurosis covering the muscles beneath apparently perfectly healthy. The upper and lower incisions were then prolonged both ways, the flaps, thus marked out on either side, partially dissected up, and their edges then approximated by the stretching and gliding process, and secured by sutures; the lines of incision above and below were then secured by fine sutures; about twenty in all were used. The dressing was completed by adhesive strips, a compress and roller.

March 1st.—To-day, removed the dressings carefully. Some oozing of venous blood, but the wound looks well; removed five or six sutures.

March 20th.—The complete healing of the wound has, up to this time, been retarded by sloughing of a corner of one of the flaps, but the cicatrization is now perfect, and the scar will be trifling.

ART. X.—*On the Use of Liquid Caoutchouc.* By J. B. D. STILLMAN, M. D., Physician to Demilt Dispensary, N. Y.

THE utility of collodion, as an impermeable plaster in various cutaneous affections, is very generally acknowledged. It has, however, some disadvantages in certain cases, arising from its inelasticity, which makes its extensive application inconvenient, or inadmissible. In such cases, thin laminæ of *gutta percha*, oil silk, or adhesive plaster, are generally used. About a year since, I was presented by Mr. S. T. Armstrong with a bottle of the milk of the *Hevea* or Caoutchouc, in the liquid form in which it exudes from the tree. It is preserved in that state by the addition of a small proportion of free ammonia, and is now introduced as an article of commerce for manufacturing purposes, and, from my experience with it, I am impelled to call the attention of the profession to it, as a most useful contribution to our *materia medica.* It is of the color and consistency of pure milk, (if my recollections do not deceive me), but becomes transparent as soon as dry. Owing to its great elasticity, it does not contract so violently as the collodion, it adheres closely to the skin, and allows entire freedom of motion and application to any extent. In burns it has an advantage over any thing I have ever used, as also in erysipelas. An acquaintance with it by surgeons will lead, I do not doubt, to many valuable improvements in surgical appliances.

ART. XI.—*Veratrum Viride.* By SAMUEL GRISSON, M. D., Ann Arbor, Mich.

THE attention of the medical profession has lately been attracted to the great virtues said to be possessed by the American Hellebore (Veratrum Viride). Important results are claimed, from its careful and prompt exhibition, by Dr. Norwood, who has recommended the use of this medicinal agent so highly, and, as some may think, with too sanguine hopes of its almost specific use in several diseases. Whether the expectations which Dr. Norwood[*] seems to have of this plant will all be realized, is a matter which time and the experience of medical practitioners must eventually determine, and it is for this purpose that every one who has used this powerful agent should give the medical public the benefit of his observation. I have used the veratrum viride in only two cases. The first was a case of typhoid fever, so called, although the enteric symptoms were almost entirely absent. This case had progressed unfavorably, when it came into my hands, and the hopes of a successful termination were very limited at that time. The exhibition of the veratrum appeared to exert no appreciable effect on the disease, nor did it seem to diminish the number of pulsations at the wrist. The second case was that of a severe attack of pleurisy, in a lady twenty-six years of age. After complaining for several days of feeling not as well as usual, and after one day's exposure to the damp and cold air, she was seized in the evening with chills and fever, with very severe lancinating pain in the left side, which caused her to scream every time she breathed or coughed. Her pulse was full and hard, and beat 120. She was bled ℥ xiv., which had the effect of stopping the pain in her left side almost immediately and entirely. The blood had the buffed and cupped appearance as much as, or even more than, I had ever seen it before. The patient appeared to be gratified with the effect of the bleeding; but the severe lancinating pain returning in about three hours, and this time in the right side, more blood, to the amount of ℥ v., was abstracted, when syncope was nearly induced.

Pain was somewhat diminished, but by no means entirely removed. The blood, however, showed no more buffy or cupped appearance. Pulse still 120, without any more hardness. Ordered calomel grs. xii., to be followed with castor oil if necessary; blister to right side to be dressed with ung. hydrarg.

The following day the calomel had operated well, and the blister drawn well; but, the patient not having improved much, I determined to use the veratrum viride, especially as the pulse was still 120. I directed 4 drops of the tincture to be given at two o'clock, P.M., and the same quantity to be repeated every hour, until I saw the patient again, which was a little after five o'clock, P.M. I did not follow the directions of Dr. Norwood, who, I believe, orders 7 drops the first hour, and one additional drop every subsequent hour, until reduction of the pulse has taken place. Judge of my astonishment, when I found the pulse reduced to 95, at my visit a little after five o'clock, after the patient had taken four doses of 4 drops each. She complained bitterly of the medicine, that it made her very sick, and declined to take any more of it. Insisting, however, upon its further use, she was induced to take two more doses of 4 drops each, when, at seven o'clock, P.M., the pulse was reduced to 64. The medicine was now suspended, and the pulse fell still more, till it reached as low a point as 60 before eight o'clock. Hysterical symptoms supervening, morphine, in repeated and large doses, was administered with the happiest effect. Next morning the pulse had risen to 88, but one or two doses of the tincture, of only 2 drops each, reduced it again to its former standard, and the patient recovered rapidly without any untoward symptoms, and without the further exhibition of any more medicine. I would also state, that there was a violent palpitation of the heart, previous to the administration of the veratrum, but the lady assured me that even after taking the first dose she could feel this very sensibly diminish, till it disappeared, with the other symptoms.

PART SECOND.

CRITICAL ANALYSIS.

ART. XII.—*On the Nature, Signs, and Treatment of Childbed Fevers;* in a Series of Letters to his Class. By CHARLES D. MEIGS, M.D., Professor of Midwifery and Diseases of Women and Children, in Jefferson Medical College, Philadelphia, etc., etc. Philadelphia: Blanchard & Lea, 1854. 8vo. pp. 362.

Puerperal Fever as a Private Pestilence. By OLIVER WENDELL HOLMES, M.D., Parkman Professor of Anatomy and Physiology in Harvard University. Boston: Ticknor & Fields, 1855. 8vo. pp. 60.

IMPERFECTLY as the term puerperal fever serves to define the pathological conditions to which it is universally applied, it is, nevertheless, a term of definite and fearful import to both the practicing accoucheur and the unfortunate victim of the disease. To them, no other appellation, however generically or pathologically correct, could be more truly significant. Multitudes of widowed husbands and motherless children have too sadly known the terrific fatality of the malady that so frequently causes blighting desolation to homes and hearts, at that period of a mother's existence when joys and hopes are brightest; while almost every practicing physician can bear testimony to the anxious vigil which every case of childbed fever has uniformly cost him, from the first prodromic symptom, until the patient was fully recovered, or, alas, had reached the fatal end to which the disease so fearfully tends.

No disease which we are called to treat demands greater promptness and skill in diagnosis and therapeutical management; none requires a more enlightened and discriminating judgment, or more accurate pathological knowledge on the part of the physician; for the malady occurs at the most important and susceptible hour of a woman's existence, and the insidiousness and suddenness of its onset are equaled only by the rapidity of those grave pathological events that mark its progress, and which inevitably jeopardize or destroy life.

Much as has been written upon the subject of puerperal maladies, and numerous as have been the theories relating to their pathology, it has remained for physicians of the present day to reduce the facts in this department of Medicine to anything like scientific exactness; and that even some of the most important questions relating to the special etiology and pathology of puerperal fever yet remain *sub judice*, more striking evidence could not be had than is afforded by the two treatises we are about to examine.

The Letters of Professor Meigs will be read with great interest by the thousands who have admired him as a teacher, and loved him as a kind-hearted professional friend; and whatever may be the merits of the author's peculiar opinions, and whatever his errors, no physician can attentively read these letters without profit.

The ample clinical experience which Dr. Meigs has so long enjoyed in his special department of practice, no less than the eminent position he occupies as a teacher, should certainly qualify him to speak with assurance upon the important topics which called forth these letters; and, although the author's enunciation of his opinions is occasionally too dogmatic to be agreeable, those opinions are certainly worthy a thorough investigation.

Dr. Meigs' heroic practice of blood-letting in the treatment of puerperal fever, and also his denial of the contagiousness of the malady under any circumstances, are already well known to the profession. In these letters he gives the reasons upon which he has based his doctrines; and notwithstanding the pugnacity with which he denounces all conflicting opinions, and especially those which he has designated as "the jejune and fizzenless dreamings of sophomore writers," no one can doubt that Dr. Meigs always speaks his honest convictions.

The first three letters are devoted to a rambling account of the antiquated notions of *errements du lait*, *lait repandu*, or milk metastasis, which may be interesting to the students of his class and such other persons as have never examined the history of those chaotic fancies that filled the minds of physicians of early times, before there was any correct knowledge of the pathological anatomy of this and kindred maladies.

Though entirely unconnected with the subject, our author refers to the obsolete dogmas of Willis, Doublet, and Vigorous, as being the basis of the rational doctrine of blood vitiation taught by Ferguson and Rigby—a doctrine, correct or not, that certainly has other and better foundation than the vague conjectures of those old writers. Dr. Meigs himself refers to the fact that pyæmia is apt to occur in puerperal maladies; and as the blood is frequently found in this diseased condition in fatal cases of puerperal fever, it is not strange that Ferguson's theory is a popular one.

Previous to Ferguson's publication, Cruvelhier had taught that the internal surface of the uterus after parturition, like a stump after amputation, is apt to become a nidus for pyæmic poisoning, pus and putrid fluids being absorbed therefrom, and conveyed throughout the adjacent viscera and tissues. This theory of the etiology of childbed fever may be wider the truth than that taught by Locock and others, who consider that the primary morbid impression is made upon the nervous system; but the doctrine of toxæmia is based upon facts that have been observed in the symptomatic progress of the disease, and in its pathological anatomy—not upon any modification of the old hypothesis of a milk metastasis.

Adopting the theory of *endangial hæmatosis*, or the blood-making power of the *membrana vasorum communis*, Dr. Meigs announces that "many of our most fatal childbed fevers are nothing more nor less than instances of endangitis, cases in which the membrana vasorum of the uterine and crural, and even the cava veins, are the seat of an inflammation called childbed fever, milk-leg, depôt laiteux," etc., etc.

To this doctrine of phlebitis no one will take exception, for it has been demonstrated sufficiently often; but not every pathologist could subscribe to the following bold statement which our author puts forth concerning the special pathology of the phlegmasiæ:

> All scarlatinas, measles, variolas, varicellas, erysipelas, gout, rheumatism, and many forms of childbed and other fevers, have their prime seat in the blood membranes (endangium), and are but so many varied expressions of its diseased condition.

Now, if there exists any foundation for this bold hypothesis, it certainly is not surprising that Dr. Meigs should find in phlebitis, or, as he learnedly denominates it, *endangitis*, the principal cause and primary pathological event of childbed fevers. But if Dr. Meigs bases his hypothesis upon the fact that, in less than a moiety of the cases of death from puerperal maladies, there have been found evidences of uterine phlebitis, or, as we may infer from his language, upon some collateral evidences afforded by the phenomena and history of the eruptive fevers, this announcement of his widely-applied hypothesis would seem to be at least premature. Locock and Ingleby, or Cruvelhier and Ferguson, can furnish far more satisfactory demonstrations of their respective theories. Indeed, unless Dr. Meigs' theory of "Endangitis" can be made to apply to all inflammatory diseases, both simple and specific, we conceive that it must eventually share the fate of the fanciful hypotheses of Willis, Puzos, and Vigorous; and even if applied to inflammations, generally, we fear it may find no clearer demonstration than did the old notions of a *lentor*, the *error loci*, etc. It were well for the honor of medical science, and for the credit and advancement of the healing art, that all hypothetical philosophizing upon the subject of inflammation, and upon the occult processes of hæmatosis, were refrained from until we obtain more reliable data from which to deduce rational theories.

We do not find that the distinguished author of these Letters has added anything to the already existing stock of knowledge on the subject of inflammation, and he has contributed nothing to our knowledge of the pathological anatomy of puerperal fever. He has merely announced the fanciful hypothesis of endangitis, or an aberrant endangial hæmatosis, as the *ultima thule* of pathological research.

The following is a striking specimen of his disquisitions upon this theme:

> “The blood is the fluid body. The body is fixed or rigid blood.” (Burdach.) The antagonism or polarity of these two is a vital force—either dies but for the continued activity of the other, and this relation of each to the other takes place through, and only through, the solids of the blood vessel. (Endangium.) * * * * *
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> * * * A woman pregnant is often observed to labor as to her circulation; she becomes sometimes plethoric and hyperinotic; at other times she is to the last degree hydræmical. The force of her hæmatosis is exaggerated or exhausted, as the case may be, and the direct fault, the pathological fault, is to be traced to a state of the Endangium, which is her blood-making tissue, which has the same relation to the functions of hæmatosis as the gastro-enteric mucous membrane has to the process of her digestions.

As we shall presently have occasion to notice, this crude theory which Dr. Meigs has adopted, and which determines both his views concerning the etiology and pathology of puerperal fever, and his practice in its treatment.

Is Puerperal Fever Contagious? Professor Meigs has decided that it never is. Professor Holmes has *proved* that it often is contagious, and sometimes fearfully so.

The poetic Harvard professor has furnished an absolute demonstration, by facts, of the affirmative, while the veteran and staid teacher and accoucheur of the Quaker city has defended the negative with the poetic arguments of fanciful hypothesis, and by an elaborate investigation of the etymology of the term contagion.

This question of the communicability of puerperal fever being one of the most important that can concern the friends of a lying-in patient, or that ever addresses itself to the conscience as well as the self-interest of an accoucheur, any difference of opinion on the subject naturally leads to earnest discussion, if not to acrimonious feelings. But upon such a question, involving, as it does, the lives of confiding patients, and the honor of our art, physicians should at least be so far agreed as to yield assent to any rules of attendance upon puerperal fever cases, which the majority of intelligent physicians in any community may adopt.

Dr. Meigs utterly denies that childbed fevers are ever communicable from one person to another; and he bases his argument upon the following considerations: 1st. The topical inflammation of the pelvic organs in some of their tissues seems to be the primary pathological event, while the fever is merely symptomatic. 2d. Contagious diseases are all specific in character, as variola, syphilis, etc. 3d. They affect the race of mankind without respect to age, or sex; it is not so with puerperal fever. 4th. It is an absolute condition of contagion that it must undergo some certain incubation. 5th. Puerperal inflammations are often more rapid in progress than infectious diseases are. 6th. The medical opinions and doubts of certain reputable physicians; as Prof. Dewees, Dr. Robert Lee, Baudelocque, and Jacquemier.

Prof. Meigs strongly fortifies his opinions by certain facts that have been observed in hospital practice where puerperal fever has been endemic, and especially does he find his views corroborated by the experience of Von Busch in the lying-in hospital of the University of Berlin.

Dr. Holmes' Essay, which was first published some twelve years since, having attracted marked attention to the question of contagion, in Great Britain no less than in our own country, and as that Essay presents an incontrovertible argument, and a most earnest appeal to the medical profession, Dr. Meigs has very naturally made special allusion to it and its talented author. In language and in a spirit that reminds one of the haughty giant who defied the champion and poet of Israel, the "American writer of a small pamphlet essay" is very summarily disposed of; but, in Dr. Holmes' rejoinder and the republished Essay, are found selected the *facts* just suited to pierce the closest brazen armor of assertion and theory. The arguments adduced by Prof. Meigs are briefly answered by Prof. Holmes, and the facts upon which they are based he endeavors to assess at their true value. There is no attempt at retort upon the author of the letters, notwithstanding the provocation. With the dignity of a true physician, Dr. Holmes says in his rejoinder:

"I take no offense and attempt no retort. No man makes a quarrel with me over the counterpane that covers a mother with her new-born infant at her breast! There is no epithet in the vocabulary of slight and sarcasm that can reach my personal sensibilities in such a controversy."

It is admitted on all hands that puerperal fever often prevails in an endemic or epidemic form, and that in these forms the malady is usually of a highly malignant character; that epidemic puerperal maladies have prevailed with more or less constancy in connection with epidemic or malignant erysipelas; and that whether epidemic or not, but especally when epidemic, cases of erysipelas and of puerperal fever are sometimes observed to occur in such relations as to lead to the supposition that, through the agency of the accoucheur or some other medium, erysipelas in one patient may induce a puerperal fever in a lying-in patient. But more universally is it admitted that, epidemics of puerperal fever have been frequently observed to be limited to the practice of a single physician, however widely that physician's patients may have been scattered and however great the number of accoucheurs in the same community. Again, the instances are not infrequent in which such individual epidemics have sprung up and followed in the practice of a particular accoucheur who, immediately preceding his initial case of puerperal fever, had been exposed to the cadaveric infection of puerperal or other diseases, in autopsies held in places remote from the localities that subsequently enjoyed his services as an obstetrician, and suffered from the epidemic that followed his practice.

It was by the collection of reliable facts relating to these points, and by an investigation of the circumstantial history of the individual cases of the disease, that Dr. Holmes succeeded in arousing the attention and the conscience of our profession to the importance of the questions which are involved in the disputed point that these facts seem to settle; and we trust that every physician in our country will procure and read this excellent Essay of Dr. Holmes, which Dr. Ramsbotham has recently pronounced to be "the best paper in any language written to prove the highly contagious nature of puerperal peritonitis; * * * a masterly performance, and well worth perusal by any skeptics on the subject."

The author of the Letters seems to have furnished, in defense of his opinions, the strongest arguments of which the negative of this question of contagion is susceptible, and we entertain the opinion that the peculiar earnestness with which he has enforced the doctrine of the noncontagiousness of puerperal fever will, upon the whole, prove beneficial to the physicians who read his book; for the Professor's reasonings upon this subject will fail to convince many of his class who, but for the attention and criticism which this portion of the treatise will provoke, might be left to adopt, without question, the author's heroic practice of blood-letting.

But Dr. Meigs' Letters are by no means devoted exclusively to the defense of opinions which are of questionable correctness, or to doctrines that are of doubtful utility.

In Letters 7, 8, 9, and 10, is furnished a very complete and practically valuable *résumé* of the rational etiology, the semiology, and the pathological anatomy of childbed fevers, together with a brief history of puerperal fever epidemics.

Letters 19–26, inclusive, are devoted to the subject of *treatment*. Blood-letting is announced as the "chief remedy," and the author's views of the *ratio medendi* are exhibited in the following quotations:

> As a physician in practice, I could not but be much given to confide in phlebotomy as a means of conservation against threatened attacks, as well as the case of sickness already formed; for as much as in all my views of vital action, whether physiological or pathological, I have never been able to conceive of either sense or motion as things possible, independently of a quantitative state of the circulating blood. I speak here of the capillary blood, in the part wherein the sensation is perceived, or the motion effected. I think I shall never become able to view the matter in any other light; for I am convinced that all acting power of the nervous mass is an absolute and direct consequence of the combination of oxygen, in the blood, with the albuminous element of neurine. * * * Febrile diseases and all inflammations are, manifestly, conditions or states growing out of over-production of this neurosity, in the whole or in the parts. * * * The brain capillaries give out the oxygen, whose combination with neurine elicits the flash of life as the biotic force or nervous force; hence, quantitative states of the blood in the encephalon determine the quality or force of the nerve stream. In inflammations, on the contrary, it is the organs or tissues that are first to be affected; and from such affections or modifications of their vital state flow the constitutional disorders, reactions, or perversions. The former are centro-periphral; the latter are periphero-centric maladies. They are diseases of opposite poles; the idiopathic fevers being affections dependent on states of the encephalic pole, while inflammatory diseases and disorders of the organs are results of failure or derangement in the organ-poles of the body.
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> Tissues, in a state of inflammation, may be said to tend always to expand or augment the areas of the phlegmasia, in a ratio compounded of the force of the blood's motion within their capillary vessels, and the vital power of vascular resistance to the injecting force of the heart. A strong, full, frequent pulse, tends more to the expanding of the inflamed areas than a weak, small, slow one. Therefore, to diminish the injection power of the heart, is to lessen the tendency to expansion in phlogosed areas.

Dr. Meigs considers that the lancet, boldly used, is adequate to meet all the great emergencies of puerperal fevers. Leeches, cups, and mercurials, in his estimation, are of no value, and the use of opium of very questionable utility.

Copious bleedings, *coup sur coup,* and continued so long as pain exists or the blood is *sizy*, is the only treatment in which Dr. Meigs has any confidence. He also insists upon the great importance of keeping the bowels open, and, although the means he recommends for this purpose are as mild as purgatives can be, it has always appeared to us that too much care is bestowed upon the alvine dejections in cases of puerperal peritonitis. It is in connection with peritonitis that tymponitis is apt to occur, and our author says:—"It is against this frightful tympanitic distension that the use of purgatives should be directed." In this connection, he incidentally suggests a remedial agent of great value in these cases, an agent which we have in several protracted and typhoid cases resorted to with great satisfaction. He says:—"I have found doses of tincture of nux vomica to act very fortunately, in reducing the tympanitic distension, in certain cases of childbed fever. The doses, say five drops every two or every four hours, may be safely exhibited."

Sudorifics enter largely into our author's treatment of childbed fevers; and among these, after Dr. Meigs' posset drink, tartrate of antimony stands first. This he administers in minimum doses of from the thirtieth to the seventieth of a grain. The posset, which we are told will cause a patient to "sweat like a squeezed sponge," is made as follows:—"Take a table-spoonful of sherry, a wine-glassful of milk, and a dessert-spoonful of sugar; pour over the mixture three-quarters of a pint of boiling water, and strain the liquor, to be taken rapidly and as hot as it can be borne." Dr. Meigs adds, "whosoever swallows this posset will infallibly sweat profusely within a few minutes after swallowing it."

Blisters, turpentine stupes, and sinapisms are utterly denounced by Dr. Meigs, and the simple epithem of a soft wet cloth, under oiled silk, is very justly commended as the pleasantest of all topical applications to the abdomen.

The view which Dr. Meigs takes of the relation of puerperal maladies to typhus and other grave diseases, seems to be eminently rational, and it aids him in accounting for many of the facts observed in epidemics of puerperal fever, especially such epidemics as are frequently witnessed in hospitals and lying-in asylums.

Letter 28th is devoted to *febris gravidarium*. The author says upon this subject:—

> A *febris gravidarium* ought, in my opinion, to be invariably looked upon as an endangial inflammation. It is a real disorder of the blood-vessels, and its seat is chiefly in the sanguiferous vessels of the reproductive system of tissues. It is this that renders it dangerous; a danger not a little enhanced by the uncertainty and even impossibility of making an early diagnosis. The diagnosis is an *ex post facto* determination in these maladies.

Letter 29, on crural phlebitis, completes the volume; and whatever may be the merits of the work as a literary effort, there can be no doubt that the many practical suggestions which the letters contain, and the earnest hints they give to young practitioners, will prove eminently serviceable for practical purposes.

Those who appreciate the circumstances under which these Letters were written, will not harshly criticise the author's peculiarities and faults of style. Professor Meigs has a law unto himself in rhetoric; and it is not unjust to say he may claim as much for some of his logic. He has opinions that are peculiarly his own, and which he defends with a vigor we admire, but sometimes with a pertinacity that astonishes even his warmest friends. We see this in his discussion of the question of the communicability of puerperal fever. Probably no amount of evidence would convince Dr. Meigs that a puerperal fever has ever been communicated from one lying-in patient to another through the medium of the accoucheur; and on this point Dr. Ramsbotham, who honors Prof. Meigs by the dedication of the last edition of his treatise on Obstetrics, has remarked, "as this physician also *wholly rejects the doctrine of contagion in measles and scarlet fever*, we can scarcely fail to believe that his opinions, regarding the non-communicability of disease in any of its forms, are too deeply planted to be rooted out by any facts, or arguments, which it is in the power of either Nature or Philosophy to supply."

After such an expression from so generous and noble a friend and admirer as Dr. Ramsbotham, Dr. Meigs cannot charge us with unfairness or disrespect in this notice of his Letters. Indeed, we confess that we entertain a very high respect for the firmly expressed convictions and opinions of such veteran practitioners as Prof. Meigs and Prof. Hodge, however widely those convictions and opinions may differ from the popular doctrines of the day, and however contrary to science and reason may be the philosophy by which they are defended; for these convictions and opinions are the results of long-continued observation. This remark applies as truly to Dr. Meigs' views of treatment, as to his opinion of the non-communicability of puerperal fever. There are many facts connected with these subjects that are not completely conformable with any existing theories; yet such facts are not the less reliable and true. Such, for example, are some of the observations which have been made in the history of individual epidemics, as in the case of Dr. Rutter, of Philadelphia, of Drs. E. P. and H. N. Bennett, of Ct. (*N. Y. Journal Med., Vol. XI., p.* 30), and various hospital epidemics of puerperal fever. The same also may be said of facts observed in the treatment of puerperal maladies; one physician has found early and copious blood-letting the only remedy required, and the *sine qua non* of cure; another practitioner finds in mercurials, etc., the greatest success in treatment, while another employs opium in heroic measure, and in hospital service finds it to surpass all other remedial agents ever employed in the fearful endemics of lying-in wards, where phlebotomy and mercurials had previously proved surest messengers of death, rather than a means of cure.

Facts like these certainly appear to indicate that puerperal maladies are, under different circumstances, in different localities, and *different* seasons, by no means generically and constantly identical in type; and that, notwithstanding the fact that a local inflammation affecting some portion of the pelvic organs is the most characteristic pathological event in puerperal fever, each case and every epidemic of the disease requires special treatments adapted to the particular constitutional condition of the patient and the general constitution of the year. We have no doubt that Prof. Meigs has enjoyed eminent success in the treatment of puerperal inflammations by heroic blood-letting. He practices in the city of Philadelphia, and among a class of people who are well fed, and have a vigorous nervous system. He sees his patient at an early hour of an attack of the malady, and the vigorous onset that he then makes upon the disease is the only onset that should be made upon such an inflammation as puerperal peritonitis, when the lancet is the agent relied on. But this mode of treatment has often killed a far greater number than it has cured, in hospital service, and in certain epidemics of puerperal fever.

Nearly as much may be affirmed of the treatment by calomel, and probably this potent agent has been more grossly misused; but of opium, though less, perhaps, is known of its *modus medendi*, we certainly believe that a more favorable report will eventually be rendered than has yet been awarded in favor of any other remedial agent that has ever been resorted to. An interesting chapter on the mode of its administration, and some of the results, may be found in the last American edition of Dr. Ramsbotham's Obstetrics, from the pen of Prof. Alonzo Clark, of this city. This opiate treatment seems to be peculiarly adapted to hospital epidemics, as witnessed in the wards of Bellevue, in the service of Prof. Clark, and in the State Emigrants' Hospital, under Prof. H. G. Cox, while, in private practice, it has yielded the most highly satisfactory results. E. H.

ART. XIII.—*Traité des Fractures et des Luxations.* Par J. F. MALGAIGNE, Chirurgien de l'Hôpital Saint-Louis, &c., &c. Avec un Atlas de 30 Planches, 2 vols. J. B. Bailliere. Paris: 1847 –1855... pp. 1950...

[*A Treatise on Fractures and Dislocations.*—By J. F. MALGAIGNE, Surgeon of the Hospital St. Louis, &c., &c. With an Atlas of 30 Plates, &c., &c.]

THE great work of M. Malgaigne, on Fractures and Dislocations, is at last completed. French surgical literature is deeply indebted to the author for his attempts to place his country on a level with the position which, as regards the subject under consideration, has been proudly occupied by Great Britain and Germany. With such models before him as the immortal treatises of Sir Astley Cooper and Adolph Leopold Richter, M. Malgaigne resolved that France should no longer remain *en arrière.* In 1847, he presented to the profession his first volume, which treats of Fractures. To this subject he devoted 842 pages, and the text was accompanied by 16 superbly executed plates. The second and last volume, on Dislocations, contains 1108 pages, and this subject is illustrated by 14 plates. Thus we have a treatise of nearly 2000 pages, and a collection of 30 plates, the latter standing unrivaled, and reflecting the highest credit on M. Delahaye, the artist, whose sketches have been chiefly taken from the three great museums of the French capital, viz.: the *Musée des Hopitaux;* the *Musée Dupuytren;* and the *Musée du Val-de-Grace.* In whatever collection he has been able to find any rare and important specimen, he has availed himself of it to enrich his Atlas: "*et c'est ainsi que j'ai eu à ma disposition plus de richesses que jamais peut-être aucun auteur n'en a possédé.*"—(p. 7.)

It has been his aim to guard against those imperfections which, in the form of *imaginary* lesions, disfigure certain works on the same subjects, and to give to his own the grand characteristic of "*la realité.*"

With the materials at his disposal, and the labors of his predecessors from which to profit, we have a right to expect a complete summary of the present state of our knowledge on the topics discussed in these comprehensive volumes. It is our purpose at present, to determine how far he has succeeded in the task assumed. And here, at the outset, we feel inclined to censure M. Malgaigne for the non-fulfillment of the promise made in his preface to the first volume, viz. : that instead of quoting in the text the various authors to whom he may have occasion to refer, he would at the close of the second volume append "*une bibliographie générale et raisonnée*," in which he would endeavor "tracer à grands traits l'histoire de l'art sur cette matière, de suivre le progrès des idées, la série des auteurs, la chronologie des grands ouvrages et de leurs principales éditions." No such addition as this is to be found in the second volume, but the names of the writers quoted, together with the titles of their special contributions, are recorded on the bottom of the same page. We pass over the first 13 pages, in which are discussed the etiology, varieties, and general symptomatology of fractures, and stop to ascertain the views of our author in reference to the formation of callus, a question which, as he justly observes, has been perhaps more frequently agitated and *elicited* more different views than any other in the whole domain of surgery. After reviewing the various theories which have been proposed, he thus gives us his views upon the subject:

"Callus is formed from plastic lymph, which lymph is probably secreted by the medullary tissue and by the periosteum, and perhaps by the fractured surfaces of the bone. This lymph becomes infiltrated in the adjacent tissues, but more especially in the periosteum and the medullary substance; blood-vessels now penetrate it, it becomes organized, and occupies the place of the effused blood which is absorbed. It is worthy of remark that a very large effusion of blood is an obstacle to the consolidation of the broken ends of the bone. This is the condition of things in simple fractures, or those not exposed to the air. In fractures complicated with a wound of the soft parts or suppurating surfaces, Hunter believed that union was effected by fleshy granulations developed on the broken ends of the bone, which granulations became at length transformed into osseous tissue. This opinion was embraced by Dupuytren, but to us it seems to have no foundation in facts. According to my observations on the human subject, coagulable lymph is effused only in parts not exposed to the air, and it penetrates even the interstices of the fragments, provided the air be excluded. Granulations form only on the suppurating parts, and instead of promoting consolidation they can only exist at the expense of the bone which they corrode, or which is absorbed where they are developed." (pp. 117–18.)

His views are further illustrated by an admirably executed delineation of a compound fracture of the tibia (Pl. 1., fig. 7). But interesting and important as is the question of the reparation of bone, our limits are altogether too brief to enter into a lengthy examination of the various doctrines which prevail on this subject, and we proceed to an investigation of the causes which are known to interfere with the process, and which result in the formation of false joints. Our author arranges these under the following heads:—1, Where the fragments are completely separated; 2, where they are connected by the fractured ends without any perceptible overlapping; and 3, where the bones are separated, and the bones are in contact only by their lateral surfaces. In endeavoring to determine the influence of age in producing this condition, M. Malgainge has found that, contrary to the commonly received opinion, old age offers the smallest number of cases; the greatest frequency being between the ages of twenty and thirty. About four years since, the writer had temporary charge of a patient, ninety-two years of age, with a broken leg, and, in this case, union became perfect in little more than the time ordinarily required. Among the numerous causes, which are accused of preventing the reparation of bones, the most frequent, according to M. Malgaigne, is the treatment adopted. The season, regimen, pregnancy, cancer, syphilis, scurvy, etc., etc., may produce the same effect; but injudicious treatment, such as the abuse of topical wet dressing, the premature, too tight, or prolonged application of bandages, the mobility of the fragments, etc., etc., is, in his opinion, the most common cause. No patient, under his own care, has ever been the subject of a false articulation.

Between a simple retarded union and a pseudarthrosis there is an essential difference, although the differential diagnosis is not always easy, and in some cases, even, is impossible. The most common cause of this retarded union is the obliquity of the fracture, and the separation of the fragments, or, it may result from the mobility of the parts. The indications of treatment will, of course, vary according to the nature of the cause by which the condition is maintained, although our author embraces all under the following heads:—1, The parts must be kept immovable for a sufficient length of time; 2, the fragments must be approximated by compression; 3, the vitality of the parts excited by local means; and 4, attention should be paid to the general health of the patient. In the diagnosis of false joint, Mr. Stanley, of St. Bartholomew's Hospital, London, attaches much importance to the pain which the patient suffers at the ununited part. In a clinical lecture, reported in the *Dublin Medical Press*, August 2, 1854, he remarks that this pain is "the best test that union is not completed."

The various methods of treatment, adopted for the cure of pseudarthrosis, are examined in the following order:—1. Friction of the ends; needles; the seton; the ligature; resection; rasping of the fragments; and, finally, cauterization. The merits of each of these are examined in detail. Notwithstanding the claims to priority, in the use of the seton, which has been asserted for Winslow and Percy, M. Malgaigne awards to Dr. Physick the credit of being the "fondateur de cette methode." As our readers are aware (vide Jan. No., 1855, pp. 134–35), the value of this method has recently been questioned by Prof. Brainard, of Chicago. Of the success of the seton, in many cases, there can be no doubt. That Dr. Physick, however, was correct in his views of the *modus' operandi* of the seton, is by no means so certain. If the opinions of our author, to which we have already referred, be true, granulations on the ends of the bones (which, Dr. Physick supposed, became ossified) can exert only a pernicious influence on the process of the reparation. As the soft parts alone can furnish the materials for the formation of callus, observes our author, why should we attack the ends of the bones? The seton, in his opinion, should be left in the parts for the time only necessary to produce a sufficient *engorgement* of the soft parts—a period which varies from eight to fifteen or twenty days.

The subcutaneous scarifications of the fragments, recommended by Mr. Miller, of Edinburgh, it seems was proposed by Sir Charles Bell, and tried, unsuccessfully, by Blandin.

It is gratifying to observe, that the labors of our own surgeons, on this subject, have not escaped, as is too generally the case with French writers, the attention of our author. He has referred to the cases treated by Drs. Mott, the lamented J. Kearny Rodgers, Cheeseman, and he has availed himself of the writings of Norris and Heard. From the date of his publication of the volume on Fractures (1847), we could not expect to find a notice of the more recent methods introduced by Dieffenbach, such as the ivory pegs, the galvanic treatment of Mr. Burnam, blisters, or the bone-drill of Prof. Brainard. But as these have been reported in former numbers of this Journal, we must dwell no longer on this interesting practical question. When union cannot be effected by any of the plans of treatment above-mentioned, amputation may, in many cases, be avoided, by resorting to the mechanical means recommended by Prof. H. H. Smith, in a late number of the *American Journal of Medical Science.* But we must proceed to the consideration of fractures of particular bones.

Fracture of the Os Hyoides.—In the last number of this Journal (p. 152), a case of this exceedingly rare accident was republished from the *Western Lancet*, and which occurred under the observation of Prof. Wood, of Cincinnati. Our author refers to the examples reported by Orfila, Ollivier, Cazauvieilh, Lalesque, Dieffenbach, Auberge, and M. Marcenkowski, the latter being the only instance which has come to his personal knowledge. Ollivier d'Angers saw a case in which the fracture was the result of muscular contraction. A female, æt. 56, in falling, had her head violently thrown backwards; a distinct, crackling noise was heard, caused by the fracture of the great horn of the os hyoides. The prognosis, of course, varies, according to the complications of the fracture. In the patient seen by Ollivier, inflammation and suppuration followed, together with necrosis of the posterior fragment, which, at the end of three months, escaped through a fistulous opening. This latter speedily closed, but difficulty of deglutition, attended, at times, with pain, continued for several years afterwards. If no displacement exist, the principal indication in the treatment is to prevent and subdue inflammation. When the fragments are displaced, co-aptation may be effected, by passing the index finger into the mouth, and pressing the posterior fragment outwards, while, with the other hand, the displaced parts are brought into contact. M. Lalesque introduced the œsophageal tube, through which the patient was some days nourished; and, in his case, union did not occur under two months.

Fractures of the Spine.—Under this head we shall notice those cases only in which there is depression of the *arc vertebral.* Our author quotes from Paul d'Algina to show that, even at his epoch, it was proposed in such cases to remove the depressed fragment, an operation which M. Malgaigne characterizes as "*à la fois inopportune et dangereuse;*" inexpedient, because of its uncertain character; dangerous, because, if the dura mater be lacerated, air may be admitted into the arachnoideal cavity. The only case in which it would, in his view, be justifiable, is that in which there is an open wound, and the bone is *splintered.* He refers to an instance in which Louis operated in 1762, with great benefit to the patient. But, he asks, when consolidation has taken place with depression, and the paralysis would seem to be maintained by this compression, is it in the power of the surgeon to afford relief? On the affirmative side of this question, he quotes the case in which Dr. Alban Goldsmith operated, and which is reported in the *North Amer. Med. Surg. Journal*, July, 1829. But as he asserts, its details are so imperfect that it forms no criterion by which to judge of the real value of the operation. During the past winter the writer had occasion to resort to this proceeding in two instances. One case terminated fatally on the 8th day; the other was materially benefited, and is still gradually improving. The paralysis here was of about 5 years' duration, and at present, we will only remark, that the patient has had no reason to regret that he tried the chances of this inexpedient and dangerous operation.

Fractures of the Ribs.—In fulfilling the chief indication in the treatment of this accident, viz.: to secure the immobility of the bones of the chest, much mischief has often been the result of applying too severe constriction. Most of the bandages recommended encircle the whole thorax. To obviate the inconveniences resulting from these, M. Malgaigne has proposed thus to apply bands of sparadrap plaster: one end being placed on a level with the anterior extremity of the right seventh rib, it is passed around the left side of the chest, below the scapula, and over the right scapula, from which point it is made again to encircle the left side of the thorax, and so on, until it reaches the spine of the right ileum. In this manner, although seriously impeded on the left, respiration is perfectly free on the other side. If we mistake not, Mr. Hilton, of Guy's Hospital, is the author of a better plan. He applies strips of adhesive plaster, which extend from the spine, across the side affected, to the sternum. If there be deformity from displacement of the fragments, the action of these will be greatly improved by the addition of strips applied longitudinally. His clinical lectures on this subject were published, with illustrations, in the London *Lancet*, but at present we are unable to refer to the number, or even the year of publication. When complicated with extensive emphysema, the highest authorities have advised incisions into the pleural cavity, for the purpose of emptying the chest. This practice, however, according to our author, is both unjustifiable and dangerous. If confined to the trunk no treatment is necessary; even when excessive, simple punctures with the point of a lancet are sufficient to give exit to the air, or promote its absorption.

Fracture of the Clavicle.—We have heard surgeons, of the highest respectability, question the value of any of the methods commonly adopted in the treatment of fractures of the clavicle. They have boldly asserted, that as few instances of deformity are met with in which no treatment has been tried as in those where every precaution has been taken to guard against its occurrence. Unless more than ordinary anxiety be felt to obtain union without deformity, our author recommends that all the various forms of apparatus used should be discarded; but if perfect union be required, then he would enjoin upon his patient to remain on his back in the horizontal position for three weeks; the elbow should rest on the side or in front of the chest, the arm on the sound side be fixed, the head be retained immovable on the pillow, and finally the hand of an assistant should hold the broken ends in apposition. It is stated that this treatment was actually carried out by M. Mayor, in the case of a young lady at Berlin. Fox's apparatus, or Bartlett's modification of it, as published in the March No., 1855, of this Journal, would have enabled M. Mayor to have dispensed with the *hands* of his assistant, and would, in our humble opinion, be far more serviceable than the *double crochets d'acier, analogues aux pinces de Museaux*, suggested by M. Malgaigne.

Fracture of the lower end of the Radius.—If undetected, or improperly treated, this accident may seriously affect the appearance and utility of the forearm and hand. Pronation and supination, motion at the wrist-joint, retraction of the fingers, etc., etc., may all be the consequence. Our author asserts that, at the present day, the diagnosis is so easy, that the surgeon can have no excuse for an error in this respect. But we can notice only his views of the treatment of this accident. This varies according to the existence or non-existence of displacement. In the latter case two splints or the dextrine bandage are sufficient, but displacement adds the following indications: 1, to restore the interosseous space; 2, to remedy the posterior displacement of the lower end (or the anterior, if it exist); 3, to overcome the abduction of the hand by bringing the styloid process to its natural level. M. Malgaigne remarks, that he has found no difficulty in procuring union in these cases without stiffness at the wrist-joint, deformity, or any injury to the functions of the limb, except in those instances complicated with a true luxation of the ulna. He makes use of two lateral splints which act like the dorsal and palmar in opposing the backward displacement. In order to guard against interfering with the movements of the wrists or fingers, the splint does not extend below the first row of the carpal bones. The apparatus is permitted to remain until the 18th or 22d day, when the dressings are renewed. The method of treatment recommended by Dr. Bond, of Philadelphia, is that which is most in favor with American surgeons. His paper on this subject, with illustrations, was published in the *American Journal* *of Medical Sciences*, for April, 1852. Dr. Isaac Hays, the editor of that Journal has employed a simplification of Dr. Bond's splint with satisfactory results (vide No. for Jan., 1853). A piece of the lid of a cigar-box is carved, somewhat to the shape of the forearm, and it extends from the elbow to the distal end of the metacarpus; this is well padded with cotton, which is secured by a few turns of a roller. The body of the roller is then attached to the face of the palmar-end of the splint, and the apparatus is ready for use. The arm is then to be laid upon the splint, an anterior and posterior compress properly arranged, and the whole secured by a roller.

Fractures of the Neck of the Femur.—MM. Bonnet and Nelaton maintain that the majority of these fractures are without the capsular ligament; but, with Sir Astley Cooper, our author is of a different opinion. In proof, he furnishes statistics from the following collections:—

Dupuytren Museum, ...	32	Fractures.	20	Intra-Caps.
St. Bartholomew's Hospital .	12	"	6	"
College of Surgeons (Dublin) .	18	"	12	"
Richmond Hospital (Dublin) .	41	"	23	"
	103		61	

Mr. R. W. Smith, in his *Treatise on Fractures in the Vicinity of Joints, etc., etc.*, has given a table of all the specimens of fracture of the neck of the femur contained in the principal museums of Dublin, of which 79 were intra-capsular, and 61 extra-capsular. M. Malgaigne asserts that Sir Astley Cooper was in error in supposing that the former accident is confined, principally, to patients upwards of fifty years of age. Of 28 cases, in which the age was noted by Mr. Smith (op. cit., p. 108), 1 was 36; 2, 40; 1, 46, and 4, 50; in 20, the age varied from fifty-five to ninety years.

What are the elements of our differential diagnosis in these two forms of accident? According to our author, when there is no displacement, we have no other symptoms than local pain, and impaired motion at the joint. In displacement, we have pain, tumefaction of the soft parts, loss of power in the limb; shortening, elevation and disappearance of the trochanter major; eversion of the foot, and, lastly, crepitation. The value of each of these is discussed in detail, but we can only notice one, viz.: shortening of the limb. Sir Astley Cooper states, that this varies from one to two inches; Mr. R. W. Smith, that the *immediate* shortening varies from a quarter of an inch to one inch; M. Brun, from six to eight lines; and M. Rodet estimates it at eight lines.

"Thus then," says our author, "in a recent intra-capsular fracture, the shortening may vary several degrees, but the double resistance of the capsule and the trochanter minor prevents it from exceeding one inch" (p. 671).

In some cases, as is well-known, there is, at first, no shortening, which M. Malgaigne attributes to the fact, that the fractured part is impacted, or, to the resistance of the periosteum; at a later period, this resistance is overcome, by the injudicious attempts to move the limb, or, by the inflammation and absorption, excited at the seat of fracture. Mr. Smith ascribes this absence of shortening to the integrity of the cervical ligament, and the sudden occurrence of this symptom, subsequently, as is sometimes the case, to the accidental laceration of this ligament.

Intra-capsular fracture seldom unites by *bony* union. So firmly did Delpech, at one time, believe in the impossibility of this union, that he offered, if we mistake not, a premium of 2,000 francs, for a genuine specimen of the kind, and when this was produced, he very coolly claimed the prize for himself, on the ground of priority in the discovery! When our distinguished countryman, Prof. R. D. Mussey, during his visit to Europe, in 1830, presented to Sir Astley Cooper a specimen in which such union had occurred, Sir Astley at first remarked,—"This was never broken." After a close inspection, however, he was compelled to admit, that appearances did look a little more like it, but he did not think the fracture was entirely within the capsular ligament! This is, by no means, a very uncommon illustration of the maxim, that "les faits souvent se moutrent rebelles aux theories." We think there are few who, at the present day, would question the *possibility* of osseous union in the accident under consideration. That it is exceedingly rare, on the other hand, there can be no doubt. In the seventy-nine cases, collected by Mr. Smith, in one only did it take place, whereas, in sixty-one of extra-capsular fracture, it occurred in seventeen.

According to Mr. Smith, the deposition of callus, around the fragments, is not necessary for the union of the intra-capsular fracture, as it is generally effected by the direct union of the broken surfaces, which are confronted to each other. Of course, it is most likely to occur in the variety termed impacted fracture. In concluding our remarks upon the intra-capsular fracture, we will observe, that, although M. Malgaigne has prescribed one inch as the possible extent to which shortening can occur, in the table of cases collected by Mr. Smith, we find, in four cases, it is stated to have been two inches, and in one of these it was two and a-half inches. Our author is, besides, a believer in the possibility of bony union in this species of fracture, of three instances of which, he thinks, there can be no question. He does not agree, with Sir Astley Cooper, that the external fragment becomes, in time, absorbed, where union does not take place; but the inner fragment, owing to the great difference in vitality, may thus disappear.

Fracture of the Patella.—This, according to our author, is not a very common accident, but 45, out of 2328 cases of fracture, admitted into the Hôtel Dieu, having been of this nature. Hippocrates, Celsus, and Galen, make no mention of it, Soranus being the first to describe it. The influence of age, in predisposing to this accident, is most remarkable, for, in not a single instance, did it present itself under seventeen years of age, and M. Malgaigne has seen but one case, in a lad of eleven years. It is most frequent between the ages of thirty and fifty.

Transverse fractures are seldom produced by a direct blow on the part, without an accompanying fall. Boyer has reported a case, caused by the kick of a horse, but our author is not aware of any similar example. Violent muscular contraction, as is well-known, is the most common cause of this accident. Both patellas have thus been simultaneously ruptured, instances of which have been observed by Camper, Sue, Bichat, and Sir Astley Cooper. Does this form of fracture admit of osseous union? Pibrac denied the possibility of this, and even offered a prize to the one who should present him with a specimen of the kind. Instances of osseous consolidation have been seen by Camper, Sheldon, Boyer, and others, and M. Malgaigne himself has observed others, although the cases were not of a simple transverse fracture, but there was a small splinter of bone detached from one of the fragments. The almost constant absence of osseous union, in these cases, is due to the fact, that the plastic matter, secreted in part by the fractured surfaces, but more especially by the periosteum, cannot fill the interspace. In the majority of cases, quite an interval remains, but it is doubtful whether, in this condition of the parts, the use of the limb is not equal to that in which osseous union obtains.

Three methods of treatment have been proposed: 1st, to render the limb completely immovable; 2nd, to guard against stiffness of the joint, by moving the limb freely before the bond of union is complete; 3rd, there is the mixed method, which attempts to combine the advantages of both the others. Our limits will not allow us to enter into an examination of the merits of the different apparatus recommended by Bücking, Evers, Böttcher, Aitken, Lampe, Graefe, Morgridge, Sir Astley Cooper, Mayor, and others, and most of which may be found delineated in Richter's Atlas of plates. Our author says, that these are totally inadequate to secure osseous union, and to effect this he has contrived an instrument which embraces the broken fragments, and maintains them in coaptation as does the twisted suture the soft parts. At the date of the publication of the volume under consideration, M. Malgaigne had employed this in four cases, and with very gratifying results. As this instrument is a *gripe*, the points of which penetrate the flesh to the bone, it was natural to expect that it would produce severe pain, inflammation, etc., but these have been but trifling. Experiments made with it at the N. Y. Hospital proved that it was far less painful than might have been anticipated. Sometimes the surgeon is consulted in cases where considerable time has elapsed from the time of the accident, and the fragments are already joined by a lengthy bond of union, rendering extension of the limb impossible. John Hunter treated a case of the kind successfully, by directing the patient to move it frequently with the hands and to make efforts to move it by the *will*. Sir Astley Cooper succeeded in the same manner, in another case, where both patellas were broken. Again, the edges of the fractured surfaces have been made bare, and the parts maintained as nearly as possible in apposition. Some years ago Dieffenbach divided, subcutaneously, first the ligamentum patellæ, and afterwards the tendon of the rectus femoris, about three inches above the patella, so as to avoid the synovial membrane. M. Malgaigne condemns this proceeding, as, in his opinion, it may result in an infirmity equally grave, with a badly united fracture. In one instance, our author retained the fragments in apposition for forty days. The fracture had occured three months previously, but the patient derived no benefit from this treatment. He suggests, that advantage might be gained *by incising* the edges of the fragments with a tenotomy. As a last resource, he recommends, as the most simple and effectual method, to render the knee immovable by means of a hollow splint placed behind the knee.

We must now conclude our notice of the treatise on fractures. Whoever peruses it, cannot fail to be struck with the almost complete absence of illustrations of apparatus employed in the treatment of these accidents. In this respect it contrasts most strikingly with the work of Richter, and with most others with which we are acquainted. It would be superfluous for us to add our mite of praise to the volume under consideration, nor was it our intention, when we commenced, to dwell at any great length on a work which has now been for several years before the profession. In the next number of this Journal, we shall attempt a more critical analysis of the volume on Dislocations, which bears the date of the present year.

G. C. B.

BIBLIOGRAPHICAL NOTICES.

ART. XIV.—*A Practical Treatise on the Diseases, Injuries, and Malformations of the Urinary Bladder, the Prostate Gland, and the Urethra.* By S. D. GROSS, M.D., Professor of Surgery in the University of Louisville, etc. Second edition, revised and much enlarged, with one hundred and twenty-four illustrations. Philadelphia: Blanchard & Lea, 1855. 8vo., pp. 925.

THE second edition of this excellent treatise is so much enlarged and improved that it has the character of a new work. About two hundred pages of new matter have been added to this edition, with a corresponding increase of illustrations. We shall limit our present notice of this work to some of the more important of these additions.

The sections on malformations, wounds, and lacerations of the bladder, are enlarged principally by the addition of cases. In speaking of the fatality of laceration of the bladder, the author changes the statement in the former edition, that, so far as he knew, there are only "two cases of recovery" from an injury of this kind upon record, to "scarcely half a dozen." The statement is undoubtedly truthful; but the facts are quite different, for there are now on record at least twice that number of recoveries. Dr. Gross seems to have been so deeply impressed with the fatality of this injury as to have left his former views of treatment, which were of no practical value, unimproved in the present edition. He does, indeed, approve the practice of Dr. Walker, the lateral operation as for stone, where the rupture occupies the "anterior and more accessible portions of the bladder," and for this very good reason, that the operator "thus not only secured a free outlet for the infiltrated urine, but prevented its further diffusion among the surrounding structures." If it is important to secure a free outlet when the rupture is in the external wall, is it not doubly so when the extravasation is into the peritoneal cavity? Most assuredly it is, unless we adopt the false premises of the author, that "in general, all the mischief that can be done is done in the first instance, by the escape of the urine into the peritoneal cavity." Cases are on record, in which the rupture into the peritoneal cavity has not been attended, at first, with severe symptoms; but the patients have progressively grown worse. In others, the autopsy has revealed slight evidences of peritonitis, and in a few, none, where the escape of urine from the bladder into the peritoneal cavity has been free for a week or more. We can but believe, that the formation of a channel direct from the base of this organ, externally, which would drain away the urine as fast as it escaped from the ureters, is of the utmost importance. It is folly to trust to a catheter to remove the urine, for the bladder, always contracting firmly, is more likely to expel its contents through the posterior rupture than its natural outlet.

The following entire sections have been added to this edition:

Fistula of the Bladder, which embraces the following different forms of fistulæ and their treatment:—Vesico-Vaginal, Vesico-Uterine, Vesico-Utero-Vaginal, Vesico-Vagino-Rectal, Vesico-Rectal, Vesico-Urachal, and Urethro-Vaginal. The principal authorities quoted are M. Jabert and Dr. Sims, and the operation of the latter is fully described and illustrated.

Varix of the Bladder.—This disease is due to a varicose state of the veins of the neck of the bladder, and is usually associated with calculus, or organic disease of the urethra, or rectum and anus. It has no characteristic symptoms, but may be suspected when the patient, laboring under calculus, stricture, etc., has frequent attacks of venous hemorrhage. It is to be treated by removing the cause, leeching, cold douche, rest, etc. A fatal case of hemorrhage, from this cause, recently occurred in Paris.

Inversion of the Bladder, and Protrusion of the Organ at the Urethra.—This abnormal condition is, of course, confined to the female. There are two varieties—the complete and incomplete—the former consisting of a protrusion of all the coats; the latter, of the mucous coat only of the bladder. It is caused by a relaxation of the coats of the bladder, and is to be diagnosticated from growths in that vicinity, prolapse of the rectum, etc. The treatment consists in cautiously returning the protruded portion, rest, and remedies appropriate to the existing state of the patient.

Morbid Sensibility of the Urethra: Heterologous formations of the Urethra, and Inversion and Protrusion of the Mucous Membrane of the Urethra are short but instructive sections.

Besides these additions of whole sections on new and important subjects, nearly every page bears evidence of a careful revision; and to many chapters of the former work large additions are made in this. For example, the section on *calculus* is extended about seventy pages.

These improvements we cannot further point out, and shall conclude with a reference to the Appendix, which is devoted to an inquiry into the frequency of urinary calculi in this and other countries.

United States.—Dr. Gross has taken great pains to collect facts in reference to the frequency of calculus in this country, and presents us, in this Appendix, the valuable results of his inquiry. It appears that the great stone regions are, as far as is at present known, Kentucky, Tennessee, Virginia, Ohio, North Alabama, and, perhaps, Missouri. Dr. G. can assign no cause for this difference of territory in the production of urinary calculi. It evidently depends neither upon climate, geological formation, nor habits of life. There is no essential difference in these respects between Indiana and Kentucky, yet stone is far more frequent in the latter than in the former. The food of the inhabitants of calculous regions does not differ from that used in some States where the disease is more rare; the same is true of the use of lime-water; still, Dr. Gross considers it extremely probable that food, drink, occupation, and climate, do exercise an important influence in the productions of this malady. The author gives, at length, the statistics which he has collected relating to the frequency of stone in the individual States. These facts are of great interest, and the profession is under lasting obligations to Dr. G., for his labors in this field.

It appears that calculous diseases are almost unknown in our navy. This confirms the opinion, now generally prevalent, that sea-faring people are very rarely affected with stone.

Canada and Nova Scotia.—These territories enjoy the same immunity from calculous diseases as the New England States. The concluding portion of the appendix is devoted to the statistics of calculous disorders in foreign countries, and forms, with the preceding, a valuable addition to the work.

From this brief notice, the reader will form a correct opinion of the comparative value of the present edition of Dr. Gross' work. As a treatise on the injuries and diseases of the genito-urinary organs, it has no superior. Full and complete in the history of each individual accident and disease—clear and practical in the details of treatment—this work leaves nothing to be desired in the department of practical medicine to which it is devoted. Again, it is strictly an American work; and however much it shall add to the fair fame of its distinguished author, it will contribute, powerfully, to the elevation of the medical literature of this country.

ART. XV.—*A Manual of Pathological Anatomy.* By C. HANFIELD JONES, M.B., F.R.S., and EDWARD H. SIEVEKING, M.D., Fellows of the Royal College of Physicians, and Assistant Physicians to St. Mary's Hospital, London. First American Edition Revised, with three hundred and ninety-seven Illustrations. Philadelphia: Blanchard & Lea, 1854. 8vo. pp. 733.

WE have long had need of a hand-book of pathological anatomy which should thoroughly reflect the present state of that science. In the treatise before us, this desideratum is supplied. Within the limits of a moderate octavo, we have the outlines of this great department of medical science accurately defined, and the most recent investigations presented, in sufficient detail, for the student of pathology.

The first division of the work, on General Pathological Anatomy, is by Dr. Jones, and is occupied with the consideration of the morbid states of the blood, textural changes, new formations, parasites, etc. This division contains a very complete digest of our present knowledge of cancer.

The second division, on the Pathological Anatomy of the Nervous System, is by Dr. Sieveking. It embraces the pathology of the meninges of the brain, of its substance, of the spinal cord and its membranes, and of the sympathetic system.

The third division, on the Pathological Anatomy of the Organs of Circulation, is by the same author. In this, we have a careful survey of the pathology of the heart and its external and internal membranes, and the arterial, venous and lymphatic systems of vessels.

The fourth division, on the Pathology of the Organs of Respiration, is also by Dr. Sieveking, and forms one of the most important portions of the work.

The next division, the Pathological Anatomy of the Alimentary Canal, is by Dr. Jones. It embraces the mouth, œsophagus, peritoneum, stomach, intestinal canal, liver, pancreas, etc. The pathology of the urinary organs and joints completes the part which this author has contributed to the volume. The remainder, embracing the pathology of the female organs of generation and the osseous system, are by Dr. Sieveking.

We cannot, at this time, undertake a formal analysis of this treatise, as it would involve a separate and lengthy consideration of nearly every subject discussed. Nor would such analysis be advantageous to the medical reader. The work is of such a character, that every physician ought to obtain it, both for reference and study.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

SURGERY.

On Circular Cauterization of the Base of Hemorrhoidal Tumors complicated with Prolapse of the Mucous Membrane of the Rectum. By Dr. ALPHONSE AMUSSAT, Jun.

[*Continued from Page* 121.]

THE author then details a case of internal hemorrhoids, with prolapse of the mucous membrane of the rectum, treated with circular cauterization of the base of the most voluminous of the tumors, with a T-shaped porte-caustique forceps with projecting plates, and terminating in cure. The patient was a merchant, sixty-eight years of age, of temperate habits, but always subject to constipation. From the age of twenty-six he had suffered from hemorrhoids, accompanied by losses of blood, and it appeared that every two months he experienced a sort of very painful hemorrhoidal crisis, followed by a flow of blood which brought relief. During the last ten years the tumors had come down while walking or making efforts at defecation, and as the inconvenience and pain attending them continued to increase, Dr. Nacquart, on the 11th December, 1846, called in the author and his father. The operation was performed on the 14th, and lasted two minutes and a half; the following day there was headache and slight fever, which, however, soon passed away. On the 21st the shreds of the cauterized hemorrhoid had fallen off, the volume of the tumors becoming progressively less. On the 25th, notwithstanding the efforts the patient was encouraged to make, nothing was found in the situation of the cauterised hemorrhoid but a small, granulating, suppurating surface; the external tumors being, at the same time, very much flattened. On the 4th of January the patient informed his attendants that his efforts at defecation had ceased to be attended with any protrusion; he was able to sit and to walk for a long time without feeling pain, and the external swellings had almost disappeared. The author saw this patient again on the 8th of March, 1852; since the operation he had enjoyed a degree of health to which he had previously been a stranger, and the result of the cauterization had continued as just now described.

The second case described by the author, of which, as well as the remaining cases, we shall, as we have done in the preceding instance, give only an abstract, was likewise one of internal hemorrhoids, with prolapse of the mucous membrane of the rectum, and was cured by circular cauterization of the base of the tumors, with a porte-caustique forceps. It occurred in an attendant in a workhouse, aged forty-six, of strong constitution and good general health, except that he had always been subject to constipation, and had for the last fourteen years suffered from piles, with frequent pains about the anus, and discharges of blood at stool. The hemorrhoids had latterly greatly increased in volume, and came down when the bowels acted, bringing with them a portion of the mucous membrane of the rectum; so that the patient was careful to go to stool in the evening, because the tumors returned more easily during the night, while in the daytime he had much difficulty, and often failed in returning them; at such time the friction of the shirt caused great pain, and frequently the patient could scarcely sit down. His general health becoming impaired, he applied to the author's father, who, on the 1st of March, 1848, made a circular cauterization of the left half, circumscribing the base of the tumor with a T-shaped porte-caustique forceps with protecting plates, charged with Filhos' caustic, and placed as high as possible. The cauterization lasted about three minutes; the patient suffered little, and the cauterized hemorrhoid separated on the fourth day.

On the 15th of March, 1848, the patient was examined by MM. Lallemand de Montpellier, Beauvieux, Remondet, and Chaussat, who ascertained that but half of the hemorrhoidal swelling remained. This was removed by a second application of the T-shaped forceps, charged with caustic, and allowed to remain on for three minutes. On the 4th of April the mucous membrane of the rectum had ceased to come down; the linear cicatrix of the cauterized hemorrhoids was situated about the fifth of an inch above the orifice of the anus.

This patient was seen again on the 5th March, 1849. The cure was complete; he no longer suffered at stool, there was no hemorrhage, and the constipation had ceased. No trace of the hemorrhoidal tumors or of the mucous membrane of the rectum was perceptible externally.

The foregoing case affords an illustration of the difficulty we sometimes experience in forming an accurate diagnosis of the affection. In fact, on the first examination I made of the anal region, I thought the patient suffered from a simple prolapse of the mucous membrane of the rectum, and were it not for the abundant losses of blood he had, joined to his other antecedents, I should have thought that this was his disease. But on a second investigation, made after the administration of a purgative, the vascular element became much more apparent; there was no longer any doubt that hemorrhoidal tumors existed with prolapse of the rectal mucous membrane. We see from this how useful it is to examine patients after the administration of a purgative, in order to be able to establish with precision the diagnosis of the affection. As to the surgical treatment, it ought, I think, to be the same in both cases, as I shall show at the close of this essay.

The third case was one of—

Internal Hemorrhoids with Prolapse of the neighboring rectal mucous membrane; Circular Cauterization of the base of the most voluminous; Cure.—The patient, aged fifty-four, of strong constitution, had enjoyed excellent health to the age of eighteen years, when he got syphilis, for which he underwent a full course of treatment. At the age of nineteen, being garrisoned on the frontiers of Spain, he was attacked with intermittent fever of a tertiary type, which lasted eighteen months; from that period he enjoyed good health until he attained the age of forty, when he quitted active military service to enter an office under the Minister of War. This change of life was not advantageous to him, for in 1843 he began to experience general *malaise*, headache, oppression of the chest; he lost his appetite, became dyspeptic; suffered from severe attacks of pain at the anus, in the abdomen, and sometimes in the genital organs; he occasionally felt great smarting in the urethra while passing water. His motions became difficult and painful, and to relieve his sufferings he had frequent recourse to baths and lavements.

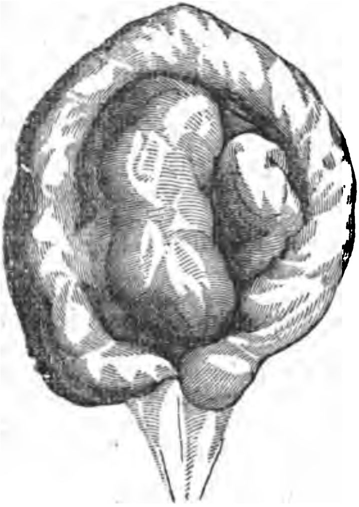
Fig. 6.

In 1848, the hemorrhoids, which had not hitherto appeared externally, began to come down; he lost blood at distant intervals, which gave him some relief.

In 1849, his digestion improved, but he lost blood every day, and was besides obliged to return the part every time he went to stool.

In 1850, the affection becoming worse, he could not go out, or walk without the inconvenience of feeling the hemorrhoids come down, and experiencing severe smarting; besides, the friction of the tumors against one another produced ulceration, and his linen was stained with muco-purulent matter. He was constantly obliged to return the hemorrhoids, which soon protruded again. In January, 1851, he came with Dr. Laurand to consult the author. A simple examination showed the existence of a large hemorrhoidal tumor, beside which was a smaller one; the epithelium was rubbed off for a certain extent at the point of contact of the tumors; there was, moreover, prolapse of the mucous membrane of the rectum, especially at the base of the more voluminous of the tumors. It was determined to cauterize the latter. The operation was performed on the 1st of February, and on the 10th the hemorrhoid, which was blackish and shriveled, separated. On the 13th, the patient was advised gradually to increase his diet; on the 14th he had a motion for the first time, and from this period he returned to his usual mode of life, resuming the duties of his office on the 16th. The cicatrization progressing slowly, he applied rhatany ointment to the anus twice a day, and was soon completely cured.

On the 13th of April, the author wishing to have a drawing made of the cicatrix left by the separated hemorrhoid, requested the patient to make every effort to bring it into view; but it was filiform and linear, and so difficult to see well on account of the mucous membrane at that side not coming down, that he had to renounce the design. The smaller hemorrhoid, which before was seen externally, scarcely appeared. The bowels acted every day without pain, and the patient was free from all inconvenience.

The author saw this gentleman again about a month before the publication of this essay, and ascertained that the result of the cauterization continued such as has just now been described. The patient's general health was remarkably improved, but he occasionally experienced a feeling of tension towards the extremity of the rectum, which he attributed to his sedentary life; the author advised him to take as much exercise as possible, and carefully to avoid constipation, which would very probably occasion the development of the small tumors which still existed.

The fourth was one of *Very voluminous Hemorrhoids, with Prolapse of the mucous membrane of the Rectum; Circular Cauterization of their base with caustic potash and lime; Cure.*—The patient was a Wallachian prince, aged 52, who had been operated on with the ligature for internal hemorrhoids by the author's father in 1836, and returned in May, 1848, laboring under the same affection. Since the former operation, new hemorrhoids had become developed, and produced great inconvenience. Efforts at expulsion showed the existence of two large hemorrhoidal tumors occupying the entire of the anal orifice, with decided prolapse of the mucous membrane of the rectum. One of the tumors was at the right, the other at the left of the anus; numerous hemorrhoidal vessels existed.

On the 6th of May, 1848, an operation was performed by M. Amussat, Sen., which consisted in seizing the right-hand tumor with his T-shaped porte-caustique forceps, so as to include not only the base of the tumor, but also the prolapsed portion of the mucous membrane; the instrument having been firmly placed, and the tissues sufficiently compressed, the round pieces were uncovered by giving a rotary motion to the protecting plates, and the screw was again tightened, so as to compress the tumor strongly. The operation lasted three minutes. The eschar became detached, and the cicatrix formed so quickly that on the 23d it was difficult to see it, on account of the retraction which the tissues of the right side of the anus had undergone.

The pathological state of the anal region appearing remarkable, the author obtained permission to have a drawing made of the remaining tumor.

On the 26th, twenty days after the first operation, the circular cauterization of the pedicle of the left hemorrhoidal tumor was performed in the manner just described. The pain was slight, and the patient felt so well the next day that M. Amussat found him in his drawing-room seated on his sofa.

On the 29th, an examination of the anus having been made after a motion, neither hemorrhoidal tumor nor prolapse of the mucous membrane could be discovered. The Prince soon after left Paris for Wallachia, completely cured.

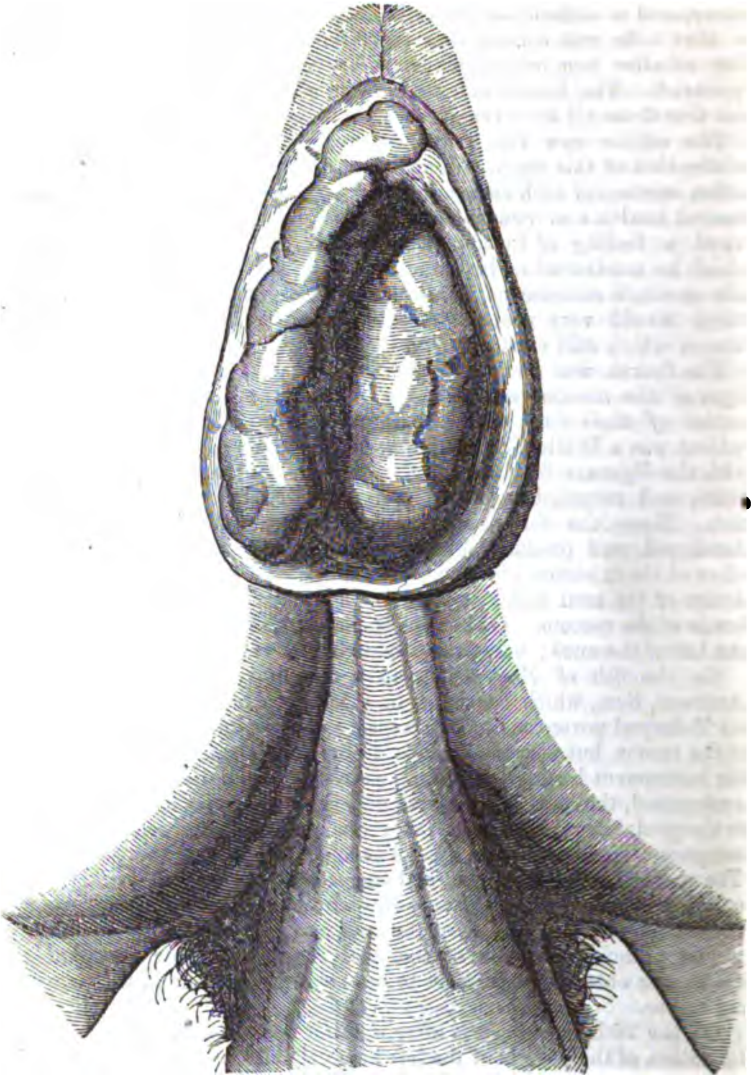

Fig. 7.

This plate represents the anus at the time of the second operation. The hemorrhoid of the right side, which has been cauterized, was as large as that which remains. There was a complete symmetry between the pathological production of the right and left sides. A sufficiently exact idea may consequently be formed of the original state of the affection, and the result of the first operation may be estimated with precision.

In the month of August last the author received a most satisfactory account of his patient; his general health was much improved, and he was in the habit of walking about three leagues a day. This exercise, of which he was completely deprived while he had the hemorrhoidal tumors, contributed much to the favorable state of his health, and the author was led to hope that new tumors would not become developed, although the affection under consideration is very common in the country the prince resides in.

The fifth case is headed *Voluminous internal Hemorrhoids, with Prolapse of the rectal mucous membrane; Circular Cauterization of the largest with my T-shaped porte-caustique forceps, with the grooves movable on their axes; Cure.*—Mr. S., aged forty-eight, came to consult me at the end of January, 1851, for an affection which, because her linen was constantly stained with purulent matter, she supposed to be a fistula. On carefully examining the affected parts, I ascertained the existence of two internal ulcerated voluminous hemorrhoidal tumors, with prolapse of the rectual mucous membrane, and some small varicose tumors at the edge of the anus; there was no fistula. The purulent discharge, which had deceived the patient as to the nature of her malady, came from the surfaces of contact of the hemorrhoids, which were superficially ulcerated. On questioning Madame S. as to the history of her case, I learned that, although of a delicate constitution, she enjoyed tolerably good health up to the time when the hemorrhoids had acquired some degree of development. She was the mother of four children, after the birth of each of whom she had hemorrhoids for a time, but then the affection rapidly disappeared, and did not return until the next confinement.

Each time that the hemorrhoids appeared under these circumstances they discharged much. In 1848, when she had been for several years free from them, they came on after much anxiety, and, in spite of the adoption of all ordinary means, they did not disappear; gradually they even increased in size. In 1849, they began to come down after each motion, and were always accompanied with discharge of blood.

In 1850 the affection advanced still further; the tumours became more painful and much more difficult to return. During the latter six months of that year the patient could not succeed in reducing them, with much pain and trouble, until two or three hours after each evacuation. Her digestion became more disturbed; she had frequent attacks of colic; her strength diminished so much that she was scarcely able to take any part in domestic matters; and she soon became unable to use anything but a little *café au lait* or very light soup. She then decided on consulting me, and on submitting to the operation I proposed to her.

On the 3rd February, 1851, in presence of Dr. Cruveilhier, Surgeon-Major of the 62nd regiment of infantry, I performed the circular cauterization of the more voluminous of the tumours, situated at the right of the anus, with a T-shaped forceps, made after the model of my father's, but with the grooved pieces movable on their axes, admitting of the caustic being covered and prevented acting until the moment it was thought advisable. The operation was performed as I have already described; the cauterized part was well washed with cold water, and smeared with olive oil. The patient took a bath, in which she remained for an hour and a quarter; on coming out of it warm poultices were kept continuously applied to the anal region. The smarting felt after the operation gradually subsided. The cauterized hemorrhoid had, on the 10th, completely disappeared: on the 12th, with the aid of a lavement, the patient had a motion, and passed a little blood. An examination made on the 22nd showed that, in addition to the disappearance of the cauterized tumor, the mucous membrane no longer protruded, and that the second tumor came down in a much less degree.

From this period Madame S. ceased to lose blood, or to have any purulent discharge; her digestion improved; the attacks of colic did not return. She still occasionally felt pains about the anus, but which were nothing in comparison to those she had before suffered. The following is the report of the 6th April, 1853:—The hemorrhoid of the left side comes down less than before the operation, and is no longer ulcerated; the small varicose tumors at the circumference of the anus seem to have increased a little in size; the right side appears as if there had never been either tumor or prolapse of the mucous membrane.

[*To be continued.*]

New Operation for Cleft Palate.—At the session of the French Academy, on the 26th February, 1855, M. Jules Cloquet read a memoir on a new procedure in cases of "abnormal divisions of certain organs, and particularly in those of the *velum palati.*" M. Cloquet proposes to render available the well-known contractile property of cicatricial tissues, as shown in the various deformities arising from burns and ulcers, by applying to the divided texture a series of cauterizations, commencing at one end of the division, and continuing them throughout its course as rapidly as the wounds, there made, heal and contract, thus gradually obliterating the deficiency. M. Cloquet recounts the difficulties and frequent failure of the old operation by suture, and furnishes the details of six cases of *fissured palate* successfully treated by the new method. The objection to the operation is the slowness of the process—but, on the other hand, there are claimed for it, certainty, simplicity, and readiness of application to the very youngest subjects, while the process of cure is accompanied with no restraint upon the patient, and does not interfere with her ordinary occupation. A cauterizing agent, the platinum-uin, heated reddish-white by an electric-current, is preferred to the hot iron, as being less likely to alarm the young patient, while it has the advantage of any chemical agent, in being more controllable as to the extent of its action. M. Cloquet proposes, in a second paper, to treat of the application of his method to the cure of ruptures of the peritoneum and of the recto-vaginal septum, and of certain varieties of fistula.—*Gazette Médicale.*

PRACTICAL MEDICINE.

Local Application of Copaiba in Cases of Blennorrhagia and Blennorrhœa.—Prof. Marchal, of Strasbourg, in a note to the *Jour. de Médecine et de Chirurgie*, gives the result of several years' experience in the employment of copaiba, applied topically. At first he injected the liquid copaiba into the urethra of males and females affected with blennorrhagia; his success was various, the remedy sometimes effecting a rapid cure, and again failing altogether. To obtain more constant results he determined to make a trial of the copaiba diluted with gum arabic, in the proportion of five parts of the former to eight of the latter, and to this add an hundred parts of distilled water. Injections, with this liquid, succeeded perfectly in a female suffering a urethral blennorrhagia, the discharge ceasing in a very few days; the results were equally satisfactory in the male. To avoid the irritation sometimes caused by the syringe, he at first used a catheter through which to make the injections, but subsequently introduced a catheter smeared with the emulsion, not penetrating to the bladder, and allowed it to remain, properly secured, thus giving the urethra a copaiba bath. The success of this treatment has been constant, without internal medication; the cure being effected in from five to eight days. In the majority of cases this treatment was not commenced until the acute inflammatory symptoms had yielded to the proper means. The success of this treatment led M. Marchal to employ the same remedy in vaginal and uterine blennorrhagia, and also to leucorrhœa, by means of injections thrown into the vagina and uterus; also with tampons smeared with the liquid placed in the former, and with the same invariably good results. Injections thrown into the uterus, in these cases, have not been followed by the accidents sometimes supervening upon this practice.

Prejudices against Vaccination during Epidemics of Small-pox. By M. Dalbin.—It seems to be a general opinion with the profession, that it is imprudent to practice vaccination upon persons living in localities where variola is raging. Physicians, who entertain this opinion, no doubt believe that, under these circumstances, the vaccine virus, instead of having a preservative character, possesses, on the contrary, a power of attraction, and that the disease, when attacking a person recently vaccinated, is almost always of the confluent variety. This opinion I have reason to regard as erroneous. Whatever be the condition of the person thus operated upon, he may be safely regarded as secure against contagion, from the moment there is observed, about the scarifications, a slightly-reddened elevation, indicating that the inoculation had succeeded. A long experience has firmly convinced me, that during epidemics of variola, inoculation by the vaccine virus is incontestibly the most certain of all prophylactic measures, not only in the case of children who have never been vaccinated, but also in persons who have been vaccinated six or eight years before. In the last epidemic, I repeated the operation in the cases of children, upon whom it had been practiced two, three, four, or five years previously, and with perfect success. In the numerous epidemics of small-pox that I have had to treat, I have never hesitated to vaccinate persons living in infected neighborhoods, whenever it has been possible for me to procure the virus; and in the course of a twenty years' practice, out of two thousand persons vaccinated, I have never but twice observed the two diseases developed simultaneously. My first observation was made in 1838. Several cases of variola had occurred in the *communes* of Saline; I proceeded, at once, to vaccinate a large number of persons, all of whom were fully protected, excepting Mary B——, a robust child of two years, who was attacked four days after the operation, and in whose case *desiccation* took place on the twelfth day. My second case is quite recent, having occurred in the month of May last. In this, the two affections presented themselves almost simultaneously, though the vaccination alone preserved its distinctive character—of the variola, there were only about fifty pustules, and the disease was remarkably mild. It is, then, as will be observed, extremely rare to see the vaccine and variolous virus developed together, and the dangers so much dreaded are, in consequence, purely imaginary.—*Rev. de Therapeut.*

Abscess following Scarlatina. By Dr. Roche.—On the 1st September, 1836, while attending a female named Maccard, I was asked to examine her little boy, aged eight years, who was then in the twelfth day of a scarlatina, complicated with severe sore throat. The little patient, at that time convalescent, had an abscess on the right side of the neck, which had opened, spontaneously, the preceding evening; the pus was escaping, with difficulty, through several openings, almost capillary in size; the abscess was of considerable extent—the throat in good condition. I proposed to incise the skin freely, in order to facilitate the flow of the pus; but the little patient refused so obstinately, that I forbore to insist, not anticipating what was presently to happen. Six days later, I was sent for in great haste, being told that the child was losing all his blood through the wound. I had scarcely commenced my preparations to depart, when a second messenger arrived, who informed me that, a large quantity of black blood had escaped from the wound, and that the patient had died in a syncope two hours after the commencement of the hemorrhage.

At the period of the above observation, I was aware of nothing analogous; but the medical journals have since mentioned two or three similar cases, all of which, if I mistake not, have terminated in death. As is well known, scarlatina is often accompanied by a severe sore throat, of malignant character, specific in its nature, with deep ulcerations destroying the tissues; it is not surprising, therefore, that the abscesses which follow should have the same character.

When an abscess occurs under these circumstances, the suppuration should be facilitated by means of poultices; and as soon as the pus has formed, exit should be made for it, by means of a large opening, while the action of the parts is modified by the application of nitrate of silver, powdered bark, tincture of myrrh, aloes, etc. In case of rupture of any considerable vessel, plugging with lint, dipped in some homostatic preparation, aided by moderate compression, appears to me the most rational means to be employed. In case the hemorrhage should persist, access should be had, of course, to the ligature; but as chloroform cannot be administered to a patient already exhausted, the application of a ligature will often be found difficult, in consequence of the cries and resistance of the child, which would render it difficult to find the vein in the midst of the disorganized tissues.—*Rev. de Therapeut.*

May Hydrophobia be produced by the Bite of an Infuriated Dog. By M. Baruffi.—A woman of 44 years, just convalescent from disease, wishing to drive away, from her children, a dog which had come to seek a shelter from the heat, in lying down at her door, gave the animal a kick. The dog, amazed, bit the remaining foot, and could only be driven by her threats and cries to loosen his hold. The wounds in the foot healed in thirty days, but were never free from a certain amount of uneasy sensation.

On the 20th Oct., 1849, about fifty days after the occurrence, a severe pain was felt, extending from the wounded foot in a straight line to the trochanter. In the mean time the cicatrices became swollen, and surrounded by a reddish brown areola, and the muscles of the thigh contracted spasmodically; during the night convulsive movements and groans.

On the morning of the 21st, violent suffocation, thirst, and uncontrollable aversion to liquids. When brought to the hospital she presented the same symptoms aggravated. Pulse tremulous, convulsions, violent effort of cough and spitting, to relieve the embarrassed throat.

Oct. 22d, same symptoms increased. 23d, features elongated, strength exhausted, delirium, muscles benumbed—all voluntary movements arrested, except the violent spitting, pulse feeble, respiration very short and noisy, with mucous râle—death.

It was, of course, desirable to ascertain whether the animal inflicting the injury was at the time diseased. It is very certain that he was not, if we may trust the statement of the unfortunate patient, who saw the dog quietly asleep a short time before being attacked, or that of the relative who often encountered him and saw him perfectly well so late as the 20th October.

M. Baruffi has no doubt that his patient died of Hydrophobia, communicated by the poison of *rabies canine.* He then seeks to explain the sudden and spontaneous formation of this agent by the influence of anger upon the nervous centres; and analogy comes to the support of his opinion. Examples are not rare, in medicine, of humoral metamorphoses under the influence of powerful nervous perturbation; sudden attacks of jaundice caused by fright; vomiting in some attacks of hysteria; fetid perspiration in some cases of convulsion and in epilepsy. In fine, the writer cites the experiments of M. Bernard, by which this physiologist has shown that, by irritating a certain limited area of the spinal marrow, the secretion of sugar in the loin is increased in a few moments. We might add to these examples that of certain nurses where milk, suddenly altered in quality by an emotion of anger, or of fright, has produced convulsion, and soon death, in the infant.—*Gaz. Med.*

Slow Poisoning by Copper.—Dr. Corrigan reports (*Dub. Hosp. Gaz.*) several cases of poisoning by copper, which are remarkable for the extreme slowness of progress resulting from the gradual introduction of the poison. In many instances it was the result of handling old or dirty copper, on which the carbonate had been formed. It was the carbonate from which the poisoning proceeded, and in this there is an analogy with the salts of lead. He notices a peculiar feature in these cases, viz.: an edging of rich purple on the margin of the gums, of the incisor, canine, and bicuspid teeth of both jaws. This purple color corresponds, in situation, precisely with the coloring produced by lead, but the tint of color is so different as to decide at once whether it has proceeded from copper or from lead, for, while the color produced by lead is of a pure blue, that from copper is a well-marked purple, and even, sometimes, a reddish purple.

Treatment of Vaginitis.—M. Thiry prescribes, in the mild form of vaginitis, first, a bath and saline purgative; then, removing the vaginal mucus, he sprinkles over the inflamed surface finely powdered charcoal or Peruvian bark, and completes the dressing by isolating them by means of a tampon. The tampon is allowed to remain from three to five hours, and on its removal emollient injections are employed; usually, in about six days, the cure is complete. In acute vaginitis he employs the same treatment, but precedes the application of the absorbing powder with a rapid cauterization of the inflamed surfaces with the nitrate of silver. A single cauterization usually suffices, and the cure is complete in eight days. He also employs the cautery and absorbing powder in follicular vaginal inflammation, which is ordinarily observed at the neck of the uterus, and is characterized by red conical eminences, and abundant secretion.

Twins born at an Interval of Forty Days.—A case is related in *Ann. Méd.* in which a female, æt. 24, healthy, of regular menstruation, and primipara, gave birth, after a short and regular labor, to a fully developed but feeble infant, which died eight days after. The placenta was delivered by natural efforts. The abdomen did not, however, completely subside; active movements were still experienced by the mother, and neither lochial or lacteal secretion was observed. No other particular symptom was manifested until the fortieth day after the birth of the infant, when she gave birth to another, feeble as the first, but evidently having arrived at full maturity. The lochial flow and secretion of milk now appeared.

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

Remarks on the Treatment of Badly-United Fractures of the Thigh.—The following remarks are the conclusion of a paper on Badly-United Fractures, by Dr. Gurdon Buck, published in the *Transactions of the N. Y. Academy of Medicine*:—Accident must have early suggested to surgeons the mode of treating this class of deformities. Patients, in their first attempts to resume the use of a fractured thigh or leg, frequently re-fracture the newly united bone by accidental falls, and this is generally followed by a speedy re-consolidation of the fracture; sometimes this has proved an advantage, by enabling the surgeon to correct a defect in the original cure. This was illustrated in a recent case at the hospital. A young man, seventeen years of age, was treated during the summer of 1854 for a compound fracture of the left thigh near the middle. The wound complicating, the fracture became the seat of hospital gangrene, and prevented the application of any extension to the limb. The result was a shortening of one and a half inches at the date of his discharge on the 3d October. On the 25th of the same month, and nearly sixteen weeks after the first fracture, he was admitted again with a re-fracture, caused by an accidental fall. There being now no external wound to interfere with the treatment, constant extension was applied, and speedy re-consolidation effected, with only half an inch shortening.

When the interval since the fracture is not too long, and the ends of the fragments are still movable, extension alone may serve to elongate the limb sufficiently. If, however, after a few days' trial, no material advantage has been gained by stretching the callus, there should be no longer delay in rupturing it. The method of operating employed in the above cases has proved safe, and it is believed it may be resorted to with very little risk of injury to the soft parts. By keeping the limb powerfully on the stretch while flexion is made, the ends of the fragments cannot be protruded far towards the surface in any direction. The inflammation and swelling following the operation, if any, are so slight as not to interfere with the immediate application of the apparatus for maintaining extension.

An important practical question in relation to this subject is, what interval of time may elapse within which it is admissible to resort to this mode of treatment? Guided solely by the consideration of the time required by the callus to become consolidated, we should be restricted in the application of our treatment to much narrower limits than clinical experience would impose. There is considerable discrepancy among authorities on this point, their views being influenced by the mode of treatment which they advocate. Some advise extension alone, with the view of stretching the callus, and discard altogether the operation of rupturing. Dupuytren, who advocated extension without rupture, fixed the sixtieth day as the ordinary limit, though he admitted that, in exceptional cases, it might be considerably exceeded. Æsterlen (cited by Laugier, *Thèse sur les cals difformes*, etc., etc., Paris, 1841), an advocate of re-fracture, places the limits at six months to a year for adults, and at a longer period for children. Prof. Velpeau (*Médecine Opératoire*, 2d edition, T. 1, pp. 604, 605) divides deformities consequent on fracture into two classes: 1st. Where there is shortening alone of the limb, with overlapping of the fragments. 2d. Where there is angular deformity. In the first case, he thinks that re-fracture should not be attempted beyond the third month, for fear of fracturing the bone elsewhere; or, in case of separating the fragments, their cicatrized extremities should fail to reünite after being brought to confront each other by extension.

Our Case No. V. is an example of successful re-fracture beyond the limits prescribed by Velpeau, and the subsequent rapid re-consolidation of the fragments shows that the fears of non-union are not always confirmed in practice.

There is still less ground for fear of non-union, if we consider that, after refracture of a callus of so long standing, it is seldom practicable, and never necessary, to employ extension to such a degree as to confront the ends of the fragments. If the amount of shortening be reduced to one inch, or even one inch and a half, there still remains sufficient overlapping of the newly ruptured surfaces to effect a union, and also to secure to the patient a useful limb, with little or no halting in his gait.

In his second class of callus with angular deformity, Prof. Velpeau advises re-fracture of the callus at any period of its existence, however remote, and relates the case of an adult patient with an oblique fracture of the femur, that had united with a shortening of five inches, who, by an accidental fall, re-fractured the callus ten months afterwards, and recovered in two months, with only one inch shortening.

Catheterization of the Air-Passages. In our last issue we published an abstract of the report of the majority of the special committee of the Academy of Medicine, "On Catheterism of the Air Passages." Since that date the minority report, signed by B. Fordyce Barker, has been laid before the Academy, and the following abstract embraces its chief points of interest.

"The conclusion of Dr. Green's paper contains the following three distinct propositions:

1*st*. *That direct medication of the lungs, by means of catheterism of the air tubes, has not before been accomplished.*

2*d*. *That the operation may be performed by the dexterous surgeon with ease and facility, and with perfect safety to the patient.*

3d. That the results of this method of treating disease, whether it has been employed in bronchial affections or in the commencement of tuberculosis, have already afforded the most gratifying indications that practical medicine will be greatly advanced by this discovery.

This condensed summary of the paper referred to the committee seems necessary, in order clearly to define the duties of the committee.

The Committee were appointed "to inquire into and investigate the treatment proposed by Dr. Green in his paper," read before the Academy, Dec. 6th, 1854. That treatment is the injection of nitrate of silver into the bronchi, and "under favorable circumstances," into tubercular cavities. I now proceed to what I consider to be the legitimate duty of the committee.

1st. To ascertain whether direct medication of the lungs, by means of catheterism of the air tubes, has been before accomplished. On this point little need be said, as I presume the Academy and the committee will unanimously concur in the statement, that, in the history of medicine, there is no evidence that this has ever before been accomplished.

2d. To ascertain whether "the operation may be performed by the dexterous surgeon with ease and facility, and with perfect safety to the patient." The operation consists of two parts—1st, the introduction of an elastic tube through the vocal chords in the trachea. 2d, the injection, by means of a small syringe, of a solution of nitrate of silver, through the tube into the bronchi. The latter part of the operation can, of course, be accomplished with ease and facility. The first part, then, only requires examination, and this is not new to medical science. One of the "conclusions" of the report of the majority of the committee is, that "catheterism of the air-passages dates its history from the time of Hippocrates." * * * * But I am ignorant of the data upon which the committee base such a conclusion. Hippocrates (*de Morbis, lib. III.* 10) gives the following advice: "Fistulæ in fauces ad maxillas intrudendæ, quo spiritus in pulmonem trahatur." "Canulas should be carried into the throat along the jaws, so that the air can be drawn into the lungs." But M. Sestier (*Traité de l'Angine Laryngée Œdemateuse*,") has shown that it is very doubtful whether the ancients really did pass the sound into the trachea. He remarks that *αυλισκος*, diminutive of *αυλος*, sound, means a small sound, and that under the denomination of *φαρυγξ*, the ancients meant sometimes the *throat*, sometimes the *pharynx*, and sometimes even the *larynx*. Hippocrates then advises the introduction of small sounds, but whether into the *throat*, *pharynx* or *larynx*, it is impossible for us to decide. At all events, the practice was altogether abandoned when Asclepiades proposed bronchotomy. It was almost lost sight of when Desault, in 1801, revived it, since which time it has been really introduced and left for a longer or shorter time *in the larynx and trachea*, and we have recorded in the annals of science many cases where the tube has been passed into the trachea as a remedial measure in the cases of impending suffocation. Prof. Lallemand resorted to this method in two cases, one of which is reported by Dr. Sestier, and the other by Dr. Justin Benoit. The latter also operated in this way in one case of his own. Desault reports three cases, Giraud two, Bichat one. Another case is reported by Desault as occurring in the Hospital of Lyons, in which a soldier, who had attempted to kill himself, was *nourished* and *breathed* fifteen days by means of two sounds, one introduced into the *œsophagus* and the other into the *larynx*. A sufficient number of cases have been enumerated, to establish the fact that this part of the operation can be performed by the dexterous surgeon with ease and facility. Mr. Ryland, who is alluded to in the report of the majority of the committee, thus speaks of the introduction of a tube into the trachea. "The idea of the aperture of the glottis being closed by the abasement of the epiglottis upon it, has long since been exploded, and it is now well known that a tube, passed in the manner just indicated, will, if directed by a scientific hand, readily find its way into the trachea."

With such ease and facility does the tube pass into the trachea, that it often occurs as an accident, where the intention of the operator has been to pass it into the œsophagus, and this, too, with a tube much larger than those Dr. Green makes use of. Dr. Watson, at the last meeting of the Academy, mentioned one case of his own, where this happened in one fourth of the operations, if I correctly understood him.

The experience of Dr. Watson is confirmed by many other surgeons. There are cases recorded where the tube has been introduced into the trachea, and produced so little disturbance that the operators have believed it to be in the œsophagus, and injected liquids into the air-passages, thus producing most unfortunate accidents, and even fatal results. It is sufficient for me to refer to a Thesis by M. Prus, Paris, 1817, No. III. p. 26., to the articles by M. M. Thoré and Baillarger, in the *Annales Medico-psychologiques*, T. V. et VIII. So well is this known to surgeons, that Prof. Miller, of Edinburgh, in his standard work on the "Practice of Surgery," gives especial directions to prevent the occurrence of such a mistake. The following are his words:—"In most cases, it is well to assure ourselves fully that the tube is in the œsophagus and not in the larynx, before fluids are passed downwards into the stomach. For this purpose a sheet of paper may be placed before the face, with the extremity of the tube projecting through it, while in front of the tube a lighted taper is put, which by the paper is effectually secured from the flatus of the nostrils in expiration. If, on expiration, the flame remains steady, no air impinging on it, we may proceed with the injections, the tube is certainly in the right place. If the flame be extinguished or even made to bend considerably, it is equally plain that an error has been made, and that injection would almost certainly occasion fatal asphyxia." The facts above mentioned conclusively *prove that the absence of the "rational signs" as given by the committee*, is *no evidence that the tube is not in the trachea, and that when the committee have decided on these grounds that an experiment was unsuccessful, their decision is wholly unreliable.* * * * *

3d. The *therapeutic results* of this method of medication. No one fact is better settled in the science of therapeutics, than the effect of nitrate of silver on inflamed mucous membranes. The pathological condition of the mucous membrane of the air-tubes, in chronic bronchitis and in the bronchi leading to tubercular deposition, is equally well established. Most physicians accustomed to treat pulmonary diseases, must have had, in the course of their practice, some such ideas as are happily expressed in the following quotation from Dr. Chambers, a distinguished physician of London:—"While treating disease in those parts of the mucous membranes which are sufficiently exposed to sight and touch, for the immediate application of remedial agents, there are few to whom the wish has not occurred that equal facilities were afforded of directly influencing the deeper seated continuations of the same fibre. The powerful remedies which restore so rapidly to health the conjunctiva and the fauces, would probably act with equal quickness and success on the stomach or the bronchi, could we apply them rightly to the right spot, and attack the local disease, without passing circuitously through the whole system."* *A priori*, then, we should look for most favorable results from this method of medication as meeting a "general indication, which the judicious practitioner will know how to avail himself of."†

The writer of this report has abundant proof that the results of experience fully confirm the expectations founded upon analogy and inductive reasoning. He has availed himself of every opportunity to watch the effects of the treatment now under discussion. He has examined a large number of patients, has learned their characteristic symptoms, and has watched their progress from day to day. A report of this character cannot be burdened with a minute record of individual cases. General results only can be stated. The use of the injections has uniformly been followed by a marked decrease in the cough and expectoration. A large proportion of the cases were those of chronic bronchitis. There were some of early and some of advanced phthisis. In all the cases of bronchitis, the patients began to improve as soon as the injections were used. Many of them recovered with a rapidity which I have never seen under any other treatment. In early tuberculosis, especially when complicated with bronchial disease, (as it usually is), this method of topical medication has produced the most gratifying results, diminishing the cough and expectoration, relieving dyspnœa, and allaying pain in the chest when present. In several prominent cases, the details of which, at some future time, will be given to the profession, the disease appears to be arrested. Time, of course, must determine this point. In some advanced and hopeless cases of phthisis, the injections have, for a time, greatly diminished the cough, expectoration, and irritation about the chest, and some of these patients and their friends have repeatedly declared that they invariably rested better after an injection.

In conclusion, the minority of the committee would suggest, for the acceptance of the Academy, the following propositions:

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* Lond. Lancet, (Am. Ed.,) 1849. Vol. 10. p. 29.

† The Path. and Treat. of Tuberculosis. By John Hughes Bennett, M.D., etc., p. 140.

1st. Direct medication of the lungs, by means of catheterism of the air-tubes, was first proposed and carried into effect by our associate member, Dr. Horace Green.

2d. The operation may be performed, by the dexterous surgeon, with ease and facility, and with perfect safety to the patient.

3d. The results of this method of treatment, whether it has been employed in bronchial affections or in the commencement of tuberculosis, have already afforded the most gratifying indications that practical medicine will be greatly advanced by this discovery.

[The papers of Dr. Green, the reports of the committees, and the detail of the experiments performed, were ordered to be printed as part of the transactions of the Academy. At the meeting in July, the subject came up for discussion, but nothing new or important was elicited, and the whole matter, by a unanimous vote, was laid on the the table.—Eds.]

MISCELLANEA.

Medical Schools.—Session of 1855–6.—Before our next issue, most of our medical schools will have commenced their annual sessions, and we take this occasion to notice the changes which have been made in those whose announcements appear in our columns:

College of Physicians and Surgeons, Corner of Twenty-third-street and Fourth Avenue.—Within a few months, this school has met with a severe loss, in the death of Professor ELISHA BARTLETT. The changes in the faculty, which we noticed last year, as incident to the inability of Professor BARTLETT, from ill health, to deliver his course, are, this year, to be permanently settled. Prof. SMITH will give the course on Materia Medica; Prof. CLARK that on Pathology and Practice; and Prof. DALTON that on Physiology.

The removal of this college from its former, almost inaccessible, location, to its present highly eligible building and central situation, must have a very decided influence upon the prosperity of the school. It will be located in the pleasantest portion of the city, easily accessible, and within a few minutes' walk of Bellevue Hospital.

University Medical College, No. 107 *Fourteenth-street.*—This is the second medical college, in age, in this city, but the first in the number of its students and annual graduates. It has a very central location, from which the different hospitals are easily reached. Its museum is rich in anatomical and pathological illustrations, and its faculty embraces some of the most eminent names in the medical profession. No changes have occurred in this school during the year.

New York Medical College, East Thirteenth-street, between Third and Fourth Avenues.—Some important changes have taken place in the faculty of this school, within the last year. Prof. HORACE GREEN has resigned the chair of Theory and Practice, and received the honorary appointment of Emeritus Professor of the same branch. HENRY G. COX, M.D., has been elected to the Professorship vacated by Prof. GREEN. Prof. PEASLEE and Prof. PARKER have exchanged Chairs—

the former having now that of Physiology and Pathology, and the latter General, Descriptive, and Microscopic Anatomy.

This is the youngest medical school in the city, but it bids fair to become a formidable rival of its sister institutions. Its faculty, as at present arranged, constitutes an able and efficient corps of teachers, and who, by their connection with hospitals, can afford to pupils every needful advantage for clinical studies. It has, also, an admirably selected museum of wax preparations, which illustrate every branch of healthy and morbid anatomy.

Medical Institution of Yale College.—The faculty of this school remain unchanged since our last notice.

Castleton Medical College.—No changes have occurred in this school during the last year.

Nashville Medical College.—This vigorous school, located in one of the most liberal and enterprising Southern cities, is rapidly advancing to the front rank of similar institutions. Its claims to the attention of Southern students are well founded. Its faculty remains unchanged.

Buffalo Medical College.—The only change in this college, since our last notice, is the resignation of Prof. MOORE, and the appointment of SANFORD B. HUNT, M.D., to the Chair of Anatomy thus vacated.

Geneva Medical College.—We noticed this College last year as a revival of the old school of that name. The session of last year, we learn, gave gratifying evidence of success, the class being respectable in size and character. The changes in the faculty since the last session will materially tend to strengthen the school. They are as follows:—PROF. HYDE takes the chair of Surgery; GEORGE BURR, M.D., is appointed Professor of Obstetrics, Diseases of Women and Children, and Medical Jurisprudence; CALEB GREEN, M.D., Professor of Materia Medica and General Pathology; and JAMES H. JEROME, M.D., Professor of Anatomy and Physiology.

Philadelphia College of Medicine.—This is among the younger medical schools of Philadelphia, but it is not the less worthy of the attention of the student who repairs to that city for instruction. Its faculty embraces the names of men long known as successful medical teachers, and which cannot fail to give character to the school. It has two sessions in the year, which gives it additional advantages as a school for students.

For further particulars in regard to these schools, we refer to our advertising sheet.

Annual Reports of the Hospitals, Dispensaries, and Public Charities of New York City.—There is probably no city in the world which is laid under greater contribution, for the support of purely benevolent institutions, than New York. We refer, in proof, to the immense number of foreigners which the following statistics show annually throng our public institutions. It is right and proper that we should support liberally our native pauper population, which would indeed be a light tax comparatively, but it is asking too much that we should be required to erect and endow asylums at an annual expense of hundreds of thousands of dollars for the protection and support of foreign paupers.

New York Hospital Report for 1854.—The establishments in charge of the Governors of this Institution are, the Hospital on Broadway and the Bloomingdale Asylum for the Insane. The Hospital was chartered as early as 1771, and is one of the most important, both from age and the perfection of its arrangements, in this country. The following are the statistics of these Institutions for the last year:

	Number treated.	Died.	Ratio of Mortality.
New York Hospital, - - - -	3,680	373	10¼*
Bloomingdale Asylum, - - -	248	26	

Annual Report of the Commissioners of Emigration for the year 1854.—This Board was created in consequence of the immense foreign emigration to this port. Previously to 1847, the date of its organization, the foreign pauper was a tax upon the city. So great had the burden become to the tax-payers, that the Legislature of 1847 imposed a tax of $1.50 for every emigrant arriving at this port in a vessel from a foreign country, and placed the fund thus acquired in the hands of this Commission to indemnify the several cities of the State upon which the emigrant became a tax. The amount thus received last year was $633,210. The Institutions under the charge of this Commission are the State Emigrant Hospital, on Ward's Island, and the Marine Hospital, on Staten Island. These institutions are, therefore, self-supporting. The following is their exhibit for the year 1854:—

		Number Treated.	Died.	Ratio of Mort.
Emigrant Hospital,	.	15,861	1438	9 1-15
Refuge Department,	.	13,806	269	1 9-10
Marine Hospital,	.	4,762	909	19 1-10†

Sixth Annual Report of the Governors of the Alms-House of New York, for the year 1854.—From this report we gather the following facts in reference to the condition of the institutions in charge of the Governors of the Alms-House for the year 1854.

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* There were 156 cases of death from casualty, which, being deducted, makes the per centage 6 3-20.

† The high rate of mortality in this Hospital is due to the fact that it receives contagious, infectious, and other diseases of a fatal character. Thus it appears that there were of cholera 650 cases, and 314 deaths; yellow fever 45 cases, and 20 deaths; Chagres fever 271 cases, and 26 deaths; typhus fever 1087 cases, and 99 deaths; variola 843 cases, and 80 deaths; moribund, 118 cases. Excluding this class of diseases and the mortality is about 10·53 per cent.

	Whole No.	Admitted.			Ratio
	Under treat.	Native.	Foreigners.	Died.	of Mortality.
Bellevue Hospital, .	7,033	925	5288	725*	10 1-2
Penitentiary " .	4,058	880	2864	144†	3 1-3
Small Pox " .	210	112	73	40	14 7-10
Alms-House " .	4,724	...	....	288†	4 7-10
Work-House " .	1,681	...	....	67†	4 1-3
Colored Home .	917	...	....	138	....
" Orphan Asylum	150	...	....	21	....
Lunatic "	1,028	97	389	190‡	18
Nursery Hospital .	2,199	891	494	208	9

New York Eye Infirmary, No. 97 Mercer-street.—Thirty-fourth Annual Report.—This institution was organized in 1820, and has been one of the most efficient charities in the city. We are glad to learn from this report, that the Infirmary is soon to realize the advantages of a better location and a new building, through the liberality of the Legislature and private subscriptions. The following is a summary of its last year's operations:—Total number of patients, 3,000; natives, 1,049; foreign, 1,951; diseases of eye, 2,635; ear, 365.

New York Ophthalmic Hospital—Second Annual Report.—This Institution was incorporated in April, 1852, and opened in the following month. It is located at No. 6 Stuyvesant street, a point easy of access to students attending the different colleges.

The surgeons of this Hospital have formed a class of students and graduates, in medicine, for the purpose of clinical instruction, and we are glad to learn that this "Ophthalmic School" has been eminently successful. The number in attendance last year was sixty-five, each of whom received, at the conclusion of the course, an engraved certificate, signed by the officers of the Institution. During the past year, 1854, 1234 patients have been under treatment, classified as follows: Lids and Lachrymal organs, 310; Conjunctiva, 502; Cornea, 206; Coats and Muscles of Eye, 20; Pupils, Lens, Optic Nerve, 116. The medical officers of this Hospital are DRS. MARK STEPHENSON and J. P. GARRISH.

Dispensaries of New York.—While examining the annual reports of the several dispensaries of this city, for the purpose of exhibiting their operations, we found, in the report of the Eastern Dispensary, the following brief history of these institutions, with their annual statistics, so admirably arranged that we shall copy them. It is but justice to add, that the present report of the Eastern Dispensary is a document of great value, abounding with useful statistics of general and local interest, and reflecting creditably upon the liberality of the trustees. It contains also a complete exhibition of the operations of the excellent system of vaccination recently adopted in that institution, the credit of originating and perfecting which is due to JONAS P. LOINES, M.D., the vaccine physician, an able and enlightened statician:—

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* One-third from phthisis; cholera, 55.

† Cholera, 298 cases; deaths, 110; ratio of mortality, 39 4-5.

‡ Cholera, 83; deducting this number and the ratio of deaths is 10 per cent.

"The Dispensaries of the city of New York, though performing public functions, are private in their origin, and, as to the sources of their means, subsisting, in fact, wholly upon donations, and such small income as their economy in past years enables them to derive from funds invested. The present number of institutions, bearing this name, is five, viz.:—The New York, the Northern, the Eastern, the Demilt, and the North-western. In former times, even after New York had become a great city, a single Dispensary, "The New York," performed all the public gratuitous medical service which its existing limits required—that is, all that kind of medical service which is now received at the hands of the Dispensaries. It was established in 1790, its care embracing the whole city, and its field of operation even then not as extensive as the bounds of its present district. Thirty-seven years after its foundation, in the year 1827, it, for the first time, began to share its duty with a similar institution, the Northern Dispensary, the outward boundaries of whose district were Spring-street, Broadway, Fourth Avenue, Fortieth-street, and Hudson River, but since somewhat reduced.* This, it will be perceived, includes the populous settlement of Greenwich village and parts adjacent, that well-known quarter in which our great city first showed its expansive proclivities. Four years after the establishment of the Northern Dispensary, in the year 1832, the Eastern was founded, appropriating within its district all of the city lying east of Pike and Allen-streets, and First Avenue to Fourteenth-streets. Nineteen years after, in the year 1851, the Demilt followed, occupying as the field of its care all of the city lying above Fourteenth-street to Fortieth-street, with the Sixth Avenue for a western boundary line; all lying west thereof, also from Fourteenth to Fortieth-streets, being subsequently placed under the supervision of the North-western Dispensary which was founded in 1852. Fourteenth-street is, therefore, the base line of two Dispensary Districts, and the northern limit of three.

The New York Dispensary, as we have seen, was the parent Institution; it included among its earlier Physicians and Surgeons many whose names have become eminent in the annals of the city. The lists of Consulting Physicians and Surgeons of the several Dispensaries still chiefly embrace these names, and it would not do justice to the interest which they constantly display to assert that their positions are merely honorary.

The City Dispensaries are all formed upon the same general plan, and, as the most cordial and fraternal relations subsist between them, they work in harmony, and for measures of individual good, in concert. To render more palpable what good they annually do, so far as it may be expressed in figures, the following statistics, compiled from authentic sources, are subjoined; they are for the twelve months ending January 1st, 1855.† It will be seen that they carry their own comment with them.

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* Spring-street, Broadway, Fourteenth-street and the River, are the present boundaries.

† Unfortunately the Annual Returns of the several Dispensaries are not made up to one uniform date, or this table could be officially prepared every year.

Statistics of the Five Dispensaries of New York, for twelve months.

Name of Dispensary and Date of its Incorporation.		Patients where treat'd		Grand Total.	Nativity of Patients.		No. Vaccinated.	Deaths for the Year.	Prescript's dispensed.	Aver'ge cost of service to each pati'nt*
		At the Disp'ry	At their Dwel'gs		United States.	For'ign Cou'trs				
New York, A.D.	1790	38,069	7,983	46,052	11,076	34,976	3,538	294	112.570	10½ cts
Northern "	1827	8,421	4,449	12.570	4,522	8,048	1.447	80	26.952	25½ "
Eastern "	1832	18,194	2.737	20,931	8,516	12,415	2,952	123	26,995	13½ "
Demilt "	1851	11,457	2.710	14.167	4.782	9,485	1,405	181	24.482	27 "
N-western "	1852	6 555	2.709	9.264	3.647	5.617	936	131	16.850	27 "

Patients treated at the Dispensary, 82,396.
Patients treated at their dwellings, 20,588.
Whole number of Patients treated, 102,984.
" " " of American birth, 32.493.
" " " of Foreign origin, 70,491.
" " of persons Vaccinated for twelve months, 10,278.
" " of patients who died, 809.
Whole number of prescriptions dispensed, 207,349.

General average cost of medicine and medical services to each patient, 16½ cents."

There is one reflection which this interesting table suggests, and it is this:—Our dispensaries are all supported by public and private donations, a very precarious source of livelihood, as their annual reports show, and tending greatly to cripple their usefulness. Their aggregate expenses, during the last year, amounted to upwards of $30,000, a large sum to raise annually from the benevolent. Now, may not our dispensaries be made self-supporting in a considerable degree, without impairing their usefulness? Every patient who visits a dispensary for treatment, is able to pay a small sum of money, say five cents a visit; if, on an average, (and we believe this is the case,) each patient visits a dispensary four times, it would make an average of twenty cents for each patient treated at the dispensary. If each patient visited at home paid ten cents per visit, and we allow five visits, on an average, to each, the average for each patient, would be fifty cents. The aggregate thus received, by all the dispensaries, would be about $26,000, per annum, which would nearly cover their annual expenses in the gross, while to individual dispensaries, it would afford a small annual surplus. We do not profess to be strictly correct in our estimate, but design it for illustration. When we reflect that, of the 102,984 patients treated by these institutions, 70,491 are foreigners, is it asking too much that they be made to contribute towards the support of these great public charities, which afford them so much gratuitous aid? Besides, the patient who pays, however little, for his medical treatment, places a higher value upon it, and is more benefited than the gratuitously treated. We throw out these hints, suggested by examining these reports, and would recommend them to the serious consideration of the Medical Officers of these institutions.

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* These estimates are based upon the latest financial statements to which we have had access. The Demilt and the North-western, which are comparatively recent institutions, have incurred at the outset necessarily heavy expenditures for many things that will not require immediate renewal, and future years will, no doubt, show relatively diminished *per capita* expenses.

Emigrants' Hospital—Ward's Island.—The internal arrangement of this Hospital has recently undergone very important modifications. The old system, of Warden, Visiting Physicians, and Surgeons, and House-staff, has been abolished, and a resident physician with several assistants substituted. The following gentlemen were appointed by the Commissioners of Emigration to these several places: Physician-in-chief, Dr. JOHN B. FAY; Surgeon-in-chief, Dr. JOHN M. CARNOCHAN; Assistant Physicians, Drs. FORD and SIMROCK; Assistant Surgeons, Drs. DARLING and NELKIN.

Appointments.—We are pleased to learn that GEORGE C. BLACKMAN, M.D., of this city, has been appointed to the vacant Professorship of Surgery in the Ohio Medical College. Dr. Blackman justly ranks as one of the most learned in this department of practice. Driven by ill health to spend several years in foreign travel, he has not hitherto had an opportunity to acquire that reputation as a practitioner which we are sure awaits him. Dr. B. has been an able and acceptable contributor both to the original and review department of this Journal, and we wish him all success in the ample field upon which he enters with rugged health, and superior qualifications.

Surgical Appliances.—We refer readers to our advertising sheet for a variety of surgical instruments.

OBITUARY.

DEATH OF DR. J. C. BLISS.—Died at his residence, in this city, on the 12th of August, James C. Bliss, M.D., in the 65th year of his age.

Dr. Bliss was born in Bennington, Vt., on the 3d of January, 1791. He commenced the study of medicine with Dr. Taylor, of Lansingburgh, and afterward continued it with Dr. Ely Burritt, of Troy. In 1812 he entered the office of Samuel Borrowe, M.D., of this city, who was at the time one of the surgeons to the New York Hospital. Afterward he became resident house-surgeon to the Hospital, and in the Spring of 1815 graduated at the College of Physicians and Surgeons, having presented an inaugural dissertation "*On Permanent Stricture of the Urethra.*" The practical turn of his mind, which this essay evinces, characterized his professional career during the forty years in which he practiced his profession; and it was this, coupled with great integrity of character, which raised him to an exalted eminence in the profession. Our readers will also remember the practical character of the papers which he contributed to the pages of the Journal. During his public career, he held important offices of trust in the gift of numerous medical, scientific, humane, and charitable societies and institutions of our city, in all of which he has won the affectionate regard of all who had the good fortune to know him. We need hardly add, that one of the important landmarks of our profession has been removed.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*Cases in Midwifery, with Remarks.* By THOMAS F. COCK, M.D., Physician to the New York Hospital.

THE following cases are published, not from any novelty or peculiar interest that they possess,—for such are occurring every day in a crowded city—but from a conviction that it is the duty of every one to present the experience he has been enabled to gather, in order that some industrious compiler of statistics may use his little store of materials to benefit the profession. In a department like midwifery, where statistics are so readily obtainable, and where precedents are of so much value in directing practice, there is less excuse for neglecting to record cases, than in other departments, where a doubt in diagnosis, or perplexity in choosing the proper means of relief, would deter from committing results to writing.

Fifteen years of professional experience have enabled me to collect the accompanying cases.

FACE PRESENTATIONS.—Face presentations were met with eight times. In four cases, complications existed which invalidated the life of the child; viz.: twice the fœtus was anencephalous, once rupture of the uterus existed, and once the funis presented with the face, and as much delay had occurred through previous manipulation, perforation w employed as the best mode of relieving the mother. Regarding these as necessarily fatal to the child, the res were: to the mother, favorable in all except the case o ruptured uterus; to the child, favorable in four cases necessarily dead, four. *Mode of delivery.*—Unassisted, si cases; by perforation, two cases. *Length of labor.*—Th longest was fourteen hours; the shortest four hours. *Presentation.*—Noted in four cases, three of which were le mento-iliac, one right mento-iliac.

PRESENTATIONS OF INFERIOR EXTREMITIES.—Under this head are included presentations of breech, knees, and feet, as no difference in the plan of treating such varieties was deemed necessary.

The total of cases noted is twenty-seven. Of these, there occurred, as single births, twenty; while seven were in connection with twins.

Results.—No fatal result to mother occurred. Of the children, twelve are recorded as still-born, of which two were putrid and two others premature. Deducting these, eight births out of twenty-seven were still. Of the still-born, three are noted as multiparous, four as primiparous. *Sex.*—Eleven girls to twelve boys are noted; in the other cases not noticed. *Recurrence.*—In one case, all the births (four) were by the breech; in another, all (five) were breech; in one there were two breech deliveries out of eight labors. The only case worthy of special record is as follows:

Case 3.—Patient primipara, aged 32 years. The fœtus presented by the breech, its abdomen being toward the abdomen of the mother. The body of the child was rotated so as to bring the face toward the sacrum after the delivery of the arms, but all manual efforts for the delivery of the head failed, though assisted by ergot. It was then suspected that the head might be hydrocephalic, and accordingly a puncture was made through the orbit with a trocar, which was the only instrument at command. Delivery was then readily effected. This was an unusual complication of difficulties, the position was the worst of the breech presentation, and the diagnosis of hydrocephalus was but problematical, as no fluctuating point could be reached. It was noticed that immediately on ceasing tractive efforts the head receded, but the true state of the case was only suspected until confirmed by the effect of puncturing the cranium. The long continued efforts (thirty-two hours) resulted in vesico-vaginal fistula. This patient was under my observation as an hospital nurse for fifteen years, and managed to perform her duties without exciting suspicion of her condition.

PRESENTATIONS OF THE SUPERIOR EXTREMITIES AND CASES OF VERSION. *Case* 1.—Seen in consultation. Right hand of a premature fœtus presented. Delivery effected readily by version.

Case 2.—A multipara pregnant with her third child. Before the membranes ruptured, a presenting part was detected through the partially dilated os, which was supposed to be the elbow, but when the waters escaped, this was found to be the right foot. In the expectation that labor would progress without serious difficulty, time was allowed for further development; but it was ascertained that instead of the foot descending, a hand was substituted. Action being non-avoidable, the hand was passed into the uterus, a foot seized, and by it version was effected. The child, a male, was resuscitated with difficulty. Phlegmasia dolens supervened during the second week after delivery, but the patient eventually recovered.

Case 3.—Multipara, aged 25. The physician in attendance came for me four hours after the rupture of the membranes. The right hand was found presenting. Version was readily effected; but there was no pulsation in the cord, and the child, a male, was still-born.

Case 4.—Multipara with fourth conception. Ten days before labor commenced she had hemorrhage, but it did not recur at the time of labor. The patient was seen twelve hours after the commencement of pains, and the right arm was found protruding from the vulva much swollen. As the pregnancy had not advanced to full term, the possibility of spontaneous evolution suggested itself; but it was deemed more advisable to turn. Considerable difficulty was experienced in effecting version; the small size of the limb prevented a firm grasp, and powerful uterine contractions produced much annoyance in manipulating. Success was finally obtained by passing the hand over the breech in utero and steady traction.

Case 5.—*Version.*—Referred to as tenth case of twins. The first child having been delivered by forceps, in consequence of convulsions, the second was turned.

Case 6.—A multipara in her third labor. The child presented with both hands. In ineffectual efforts to turn, her attendant had exhausted his strength, and solicited assistance. The right foot was found in the vagina with a fillet upon it, the left foot higher up, both hands posteriorly much swollen, and finally a loop of the cord not pulsating. By the aid of chloroform, version was effected with considerable exertion, and the body delivered as far as the shoulders; with these much difficulty was experienced, as the arms were greatly swollen. This done, the body of the fœtus was turned strongly over the mother's abdomen, and the head easily delivered. Child dead.

Case 7.—A multipara, aged 29, with her tenth conception, and in the seventh month. The child presented by the right elbow. Version was effected without difficulty, and a living female child delivered.

Case 8.—Referred to as Case 13 of twins. The second child presented with cord, hand and foot. Version was attempted without chloroform, but though the foot was brought externally, the uterus prevented turning, until relaxed by chloroform. The child, a male, was still-born.

Case 9.—A primipara. About nine hours after the commencement of labor, she was found with a hand and head presentation. Delay was advised, in hopes of natural delivery; but, after five hours, no progress being made, the application of forceps was commenced. Immediately on passing in the hand the head receded, and the fœtal hand descended. No alternative was left but version, which was effected without much difficulty. The child, a girl, gasped but once.

Case 10.—A multipara, aged 23, with her second conception. The child presented by the right elbow. Version was easily accomplished; but the child, a male, was stillborn.

Case 11.—A multipara in her fourth labor. She had been under the care of a student, who, on ascertaining the presentation to be of the superior extremity, sent for assistance. The previous labor had been tedious. The right arm was found protruding from the vulva, and the uterine contractions energetic. Chloroform was administered with happy effect, in relieving the contractions, and version commenced. The right hand was first tried, and came immediately in contact with a very salient sacral promontory; the cord did not pulsate. The child lay with the abdomen to the mother's abdomen, the right arm being extruded. With my right hand the foot could not be reached, but on substituting the left, version was easily produced. No delay was experienced until the head engaged, when owing to the diminution of the antero-posterior diameter, by the projecting promontory, the head became arrested and required much exertion to free it. The child, a boy, was dead before the operation.

Case 12.—A multipara, æt. 27 years, in her third labor. The presentation was funis with the right hand. Version was effected readily under the influence of chloroform, and a male child born in an asphyxiated condition. It was resuscitated.

Case 13.—A multipara, aged 40 years, with her fifth conception. Case referred to as fifth of rupture of uterus. The patient was in an apparently desperate condition, but version seemed the most feasible means for a favorable issue. No trouble was experienced in finding the feet or in delivering. The foot was lifted over the distinct edge of a rent in the right side of the uterus. The child, a male, was dead before beginning. The mother recovered.

Remarks.—Thirteen cases are given in which version was required for delivery, of which the results were to the mother favorable in all, to the child favorable in only three instances. Of these one was premature, and five were certainly dead before the operation was commenced. The sex of the children is given in nine cases, of which seven were male and two female.

In performing version, no effort has been made to grasp both feet, but a selection of the foot opposite to the presenting hand has been attempted, and this experience proves to be the most satisfactory mode of manipulating. In cases where one foot has been brought externally, and delay has occurred in producing turning, it has been thought that benefit has ensued from passing the hand beyond the breech, while traction is made on the foot in the vagina, and thus, by the double purchase, some refractory cases have yielded.

Convulsions.—Cases of eclampsia only have been placed on record, though several more have been visited. In some, a single visit, perhaps, has been made, and the history not obtained, with the requisite minuteness to warrant any deductions from them. Of the seven cases the following particulars are recorded. *Variety of convulsion.*—In six, epileptiform; in one, hysterical. *Time of occurrence.*—During labor, in all, seven; continued afterward in four cases. *Number of labors.*—All were primiparous except one, the hysterical case. *Number of convulsions.*—In two, four; in one, eight; in one, fourteen; in one, eighteen; in one, a single hysterical paroxysm; and in one, fifteen. *Number of children.*—One was a case of twins; all the rest were single births. *State of the urine.*—Noted in five cases, in all of which albumen was found. *Premonitory symptoms.*—In three, only pain in the head was spoken of. Œdema was a prominent symptom in all except the hysterical case, and in this the feet alone were œdematous. *Mode of treatment.*—In all but one venesection was used; chloroform was employed in four cases; tartar emetic in two cases; enemata, sinapisms, and cups were used, but not noticed, in all. *Mode of delivery.*—In three cases natural efforts effected expulsion; in four, forceps were used; and for the second twin, version was employed, the only case. *Results.*—Favorable to mother in five cases, two deaths. Of children four were saved, and four were still-born, both twins being dead.

Of these cases the most worthy of record was the twin-birth. When seen, the woman appeared past all hope of recovery. She had had fifteen convulsions, was perfectly insensible, the pulse being feeble and very rapid. Delivery was attempted rather from a consciousness of duty than with any hope of beneficial effect, and was produced, the first child by forceps, the second by version. It was presumed on leaving the patient that she would soon die; but on meeting her attendant, some little time after, he informed me that she had recovered,—an exemplification of a cardinal rule in midwifery, not to suffer a woman to die undelivered.

HEMORRHAGE.—No record has been kept of hemorrhage, in connection with abortion. Twenty-eight cases of different varieties of flooding have been met with, in some instances slight, in others serious, and in one only (Case 3rd of placenta prævià) has there been a fatal issue. The instances enumerated as slight have been mostly where bleeding occurred with retained placenta, and, with these exceptions, no case has been deemed worthy of record as one of flooding, unless some obvious general effect upon the patient was produced.

Causes.—Six cases of unavoidable hemorrhage are given under the head of placenta prævià. Six are recorded with retained placenta. Two with "uterine hydatids." Two of placental apoplexy. Of the remainder, inertia of the uterus was the cause in four cases; detached placenta in one, and in five no reason is specified.

Time of occurrence.—Before labor in fourteen cases. During labor in ten. Before the delivery of the placenta in fourteen; (the cases of placenta prævià are reckoned under all these heads.) After the delivery of placenta in six. Secondary hemorrhage is noticed in one instance.

The number of cases of flooding is apparently large, yet special efforts to prevent this accident have always been made. A uniform practice was early commenced, and has been constantly adhered to, of placing one hand over the fundus uteri as soon as the head was delivered, and maintaining steady pressure as the child was expelled, which was only *personally* remitted during the necessary attention to the child, until the placenta was delivered. An attendant's services have—while engaged in tying the cord, and then only—been substituted for my own compression. During the last two or three years, as a means of preventing flooding after delivery, a small book wrapped in a napkin has been placed over the uterus and the binder *tightly* applied.

With all these precautions there have been some instances where more blood was lost than was desirable. In such cases reliance has been placed on ergot, which has proved so far, a satisfactory anti-hemorrhagic. This drug has also been given when flooding was anticipated from its occurrence in former labors. In the special cases as those of unavoidable hemorrhage, etc., the treatment is given under the appropriate heads.

As a means of preventing a return of flooding, manual compression has been most relied on even in preference to, though not to the exclusion of, the use of cold in its various forms. In the severest case of flooding from inertia, pressure was maintained by my own hands for five hours consecutively, a service correctly appreciated only by those who have been similarly employed. Nevertheless, it *seemed* at the time the only measure that prolonged life. As a *temporizing* measure in flooding before labor or before delivery, the alum plug has been relied on with much confidence, and in no ordinary case has it disappointed; but its use is attended with one serious inconvenience in cases where operative measures become necessary. So great a corrugation of the vagina is produced, and such dry and obscuring coagula are formed, that no slight embarrassment in manipulating occurs. With this objection, however, it is a remedy of value, and in hemorrhages connected with abortion it has been found peculiarly useful.

The following cases are, perhaps, worthy of special record:—

Case 1.—While visiting Bellevue Hospital wards, my attention was called to a woman who had just been delivered of a male child, after a natural labor followed by spontaneous expulsion of the placenta. Notwithstanding that the uterus appeared to be well contracted, blood continued to flow. On examining, there was found projecting from the vulva a tumor of fleshy consistence, and about two inches broad, which on being traced up, was found to be attached to the anterior lip of the os uteri, so that its length was about four inches. From the bed at least a quart of clotted blood was removed. Pressure aided by ergot failing to control this bleeding, a hand was passed into the uterus and a clot removed. The stimulus of the hand together with strong external pressure, seemed to be efficient in checking the flooding. Subsequently ergot was given more rapidly, and there was no further flow. About four weeks after confinement an examination was made with the speculum, and on the anterior lip was a projection about one inch long, half an inch wide, and about one quarter of an inch raised above the surface. The os uteri presented an excoriated surface from which a bloody purulent fluid was oozing.

Case 2.—The following case was published in the *N. Y. Med. Times* for August, 1854, from which an abbreviation is now made. A multipara, aged 40 years, about 6½ months advanced in pregnancy, had been exerting herself during the morning, and while conversing in the afternoon she became pale and faint. She was assisted to bed, and soon became nauseated, and complained of distressing distention of the abdomen. Previous to this occurrence her abdomen had been quite small for the supposed time of pregnancy; now, however, the increase in size not only attracted her own attention but became manifest to bystanders. Both bowels and bladder had been evacuated during the day. When seen about three hours after this attack the patient was pale and faint, with a cool surface, feeble, compressible, rather slow pulse, disposed to gape and to vomit. The principal complaint was of the sense of distention, which she spoke of as a "feeling like bursting." On examining the abdomen the uterus was found distended to the size of full term of pregnancy, the portion of the organ in the right hypochondrium appeared to be more elevated than the rest, and there was an obscure sense of fluctuation in this region. Percussion detected flatus in the epigastric region, while, by the ear, neither fœtal pulsation nor placental murmur could be discovered. Vaginal examination discovered no hemorrhage, and the cervix uteri was undeveloped. During the next afternoon labor commenced, and a small quantity of dark fluid-blood was discharged. About nine hours after this, the os being well dilated, the membranes were ruptured manually, a large quantity of liquor amnii escaped, and the next contraction expelled the fœtus with the placenta, and a large quantity of clotted blood, in amount, as was subsequently ascertained, at least two quarts. The placenta was unbroken on its fœtal surface, but the maternal aspect bore evidences of detachment over fully three-quarters of its extent. The patient recoverd.

Another instance of this form of hemorrhage presented itself some years since. In this case the labor was progressing satisfactorily, when the patient became faint, sick at the stomach, restless, and exclaimed that she was going to die. No blood escaped from the vagina. After a momentary lull of contraction, pains came on vigorously, the liquor amnii was discharged, uncolored, but with the placenta several large clots of blood were expelled. This woman also recovered.

Case 3.—*Secondary Hemorrhage.*—A primipara was delivered on the 12th of May. She had a slow getting up, and while engaged in washing, June 1st, had some bloody discharge. On the 4th of June, twenty-three days after delivery, while at church, and standing at the baptism of her child, flooding came on. She continued to stand until she became faint, and was carried home. By the application of ice and a bandage the flooding was checked. Two days after, on visiting her, she was found on the floor, pale and faint, and with some recurrence of bleeding; she was very imprudent in exertion, but recovered after a tedious convalescence.

In one other case hemorrhage, to a considerable extent, occurred on the 10th day.

PLACENTA PRÆVIA. *Case* 1.—Multipara pregnant with her eleventh child. Five days before delivery noticed a slight discharge of blood accompanied by slight pain. By vaginal examination the os uteri was thick and patulous, but no presentation could be distinguished. The next day but one after, she lost a large quantity of bright blood by gushes, accompanied by pain, for restraining which pills of lead and opium sufficed. On the succeeding day small losses of blood continued. In the evening a small portion of the placenta could be detected over the os, but as the labor advanced the hemorrhage gradually ceased, and no interference was deemed necessary, for the membranes ruptured spontaneously, and with the next contraction the head was expelled. The child, a boy, was apparently lifeless when born, but was resuscitated. Convalescence was protracted and precarious. The patient suffered from fecal accumulation, complicating the effects of loss of blood so as closely to resemble puerperal fever.

Case 2.—A Multipara with her fourth conception, was delivered after a labor of fifteen hours. The first evidence of labor was hemorrhage, and on examination, her attendant discovered a small portion of placenta over the os uteri. At the time of my visit, the patient was considerably blanched and restless, the pulse being feeble. The os was nearly dilated, and each pain caused an increased flow. The indication seemed to be to effect delivery by the contractions of the uterus itself, instead of by forceps, and for this purpose ergot was given with good effect. Its influence was kept up until delivery was completed, by the expulsion of the placenta with a large gush of fluid blood. The child was still-born.

Case 3.—Referred to as Case 14 of forceps. Hemorrhage came on at the seventh month of gestation, and continued with some intervals until delivery, there being no pain, and the os undilated. Only temporizing measures were used. At the time of my visit, the patient was perfectly pallid, but the uterine efforts were regular, and producing some effect. Nature was making a last rally. Stimulants and ergot failed to effect expulsion, and, as a last resort, forceps were used readily, and a still-born child extracted. The placenta was delivered soon after, but the exhaustion had been too great, and death occurred in less than two hours.

Case 4.—Multipara, æt. 34. When about five months advanced she was jolted in a carriage, and on the following day a colored mucous discharge occurred, which continued more or less for some time. About six weeks after this, while quiet in bed, a gush of blood occurred, about four ounces in amount, and without pain. The os was patulous and no presentation appreciable. The flooding recurred on the following night while dropping asleep. An alum plug suppressed the hemorrhage for four days. On this day hemorrhage returned and labor commenced, and during the day the bleeding was considerable and accompanying the pains. Alum again moderated the flow, and acet. plumb. was given with untoward effect, for nausea and faintness followed its use. By examination the placenta was centrically implanted. The alum had produced constriction and coagula impeding attempts at version. The placenta was now detached manually and the hemorrhage ceased. Very soon after the detachment, the faintness which had required stimulants was relieved. The pains ceasing, ergot was used for their renewal, and, after an interval of about an hour, contractions became ergotic and delivery was effected.

Case 5.—A multipara, æt 22, with her second conception.

While quiet in bed, about three A.M., the patient was seized with flooding, and on my arrival she was in a pool of blood. The os uteri was of the size of half a dollar, and on the right side soft, pulpy, and loose. The woman was not conscious of the commencement of labor, but the examination seemed to develop contraction, and that quite actively. At each pain hemorrhage occurred with a gush and labor, advanced rapidly. The membranes were ruptured, and the flooding ceased. A few pains sufficed to deliver the child, but it was perfectly lifeless.

Case 6.—Multipara with her second child. Four days before my visit, flooding occurred without pain, the woman being at full term of gestation. The tampon was used satisfactorily until to-day. On the recurrence of the bleeding, the placenta was found partially over the os, the head being beyond. Ergot was advised. On my arrival, labor was found to be actively progressing, and the hemorrhage had ceased. No interference was deemed necessary, and delivery of a dead male child was soon accomplished, the detached placenta following very soon. The patient was much blanched from loss of blood, but recovered slowly.

Remarks.—Six cases are given, one of which proved fatal to the mother, while of the children only one was saved. Two cases occurred at the seventh month of pregnancy. The amount of placenta detectable was partial in all except one case, (No. 4,) where it was centrical. The mode of delivery was by uterine efforts, aided more or less by ergot, in four of the cases; by forceps in one case (fatal); and by detaching the placenta in one case. Rupturing the membranes was of service in three cases. Case fourth is the only one in which the practice so ably advocated by Prof. Simpson, has been seen, and in this the effect of detaching the placenta completely was so satisfactory as to warrant a repetition of the practice under similar circumstances. Almost immediately after detachment, the system seemed to rally as if nature appreciated the relief from a fatal drain, and from that moment the patient's condition, before alarming, improved.

RETAINED PLACENTA. *Case* 1.—Multipara delivered of her ninth conception without professional assistance. About eighty hours after delivery my attendance was requested to deliver the placenta, which was found to be *in utero.* Ergot to the extent of two drachms was given with the effect of expelling the mass which seemed to have been recently attached over about one-third of its surface. Subsequently she was purged severely, and as was supposed, by anomalous action of the ergot.

Case 2.—*Placenta retained by adhesion.* A primipara, aged 20, delivered after an ordinary labor of seven hours duration. The uterus was well contracted, and a portion of the placenta was found in the upper portion of the vagina; this was hooked down, but the placenta was now ascertained to be adherent. Hemorrhage, to considerable extent, occurred, and the placenta was detached and removed in portions. A binder and compress, with ergot, sufficed to restrain the flooding. On the fourth day a portion of placenta came away, which proved to be final, and the patient recovered, though slowly, having been considerably exhausted by loss of blood.

Case 3.—The same patient, in labor with her second child. From its previous occurrence, adhesion was anticipated in this case, and, to avoid it, firm pressure was kept over the uterus from the time of the expulsion of the head. After the child was expelled, the uterus could be felt enlarging beneath the hand, the patient became tremulous and agitated; suddenly the abdomen subsided with a gush, which was supposed to be the placenta passing. Examination, however, detected the placental mass partially detached, and in the vagina, while about half was attached within the uterus. This was detached manually, and expelled by vaginal contraction. No unpleasant consequences followed. In a subsequent labor this complication did not occur.

Case 4.—Multipara, aged 33, in labor with eighth conception. The labor was of twenty-four hours duration, and the expulsion of the shoulders was delayed. After the delivery of the child, hemorrhage came on and the placenta was found attached over one-half its extent. It was detached manually, and the flooding ceased.

Case 5.—Multipara, aged 33, in labor with her sixth conception. After a severe labor of twelve hours the placenta was found to be retained by adhesion and irregular contraction. It was delivered by detaching and then removing it.

Case 6.—Referred to as sixth case of forceps. An adhesion, of about two inches in diameter, detained the placenta, and some hemorrhage occurred. Detached manually.

Case 7.—*Hourglass Contraction.*—A primipara, aged 28. The body of the child was violently extruded. Observing some hemorrhage, the hand was introduced, and found a sort of chamber on the right side of the uterus, whence the placenta was manually detached over a small space and uterine contraction expelled both hand and placenta.

Case 8.—*Adhesion.*—A multipara, æt. 30, about six and a half months advanced, in her fifth pregnancy, was subjected to violence which induced flooding and premature labor. After the expulsion of the child the placenta remained, notwithstanding severe expulsive efforts on the woman's part. The hand being introduced, found firm adhesion over about three-fourths of the placenta which was detached, and a contraction expelled the whole.

Case 9.—*Adhesion.*—A primipara was delivered after an ordinary labor of five or six hours duration. After the expulsion of the fœtus the placenta was found in the vagina, and the insertion of the cord was plainly distinguishable. On attempting to hook down the placenta with the finger, a small, narrow strip was found very firmly adherent with the os uteri. In manipulating to detach this, the narrow isthmus gave way, leaving a small portion of the placenta still attached. It was thought more prudent to leave the separation of this portion to time and the natural efforts, than to grope about with the hand, and without a guide in a firmly contracted uterus, and thus manually to injure the organ. The patient progressed favorably up to the tenth day when she had considerable irritative fever, and a dark and fetid discharge. She recovered. In a subsequent labor adhesion did not occur.

Case 10.—*Adhesion.*—A primipara was delivered after a labor of more than ninety hours. After the expulsion of the child (which was born alive) the placenta was not cast off. As there was no hemorrhage, and the expulsive efforts were strong, no interference was attempted for half an hour. Delivery was then effected by introducing the hand and detaching the placenta over about half its surface.

Case 11.—*Adhesion.*—Case ninth of embryotomy. Placenta required manual delivery.

Case 12.—*Irregular Contraction.*—Case eleventh of embryotomy. After instrumental delivery, the placenta was detained by irregular contraction, and was found by the hand in a separate compartment of the uterus.

Case 13.—*Adhesion.*—The woman had been delivered after an easy labor, but the placenta was retained. At my visit, four and a half hours after the expulsion of the fœtus, the placenta was found partly in the vagina. On tracing it up, a strong adhesion existed to the uterus within the os, which was firmly contracted. Two fingers were used satisfactorily in detaching the adhesion, and then the whole was forcibly expelled with a gush of blood.

Case 14.—*Adhesion.*—A primapara had been delived after a tedious labor, but after waiting an hour her attendant could not deliver the placenta. The placenta was found completely adherent. Chloroform was used to quiet the patient, who was very restive, but it was not deemed expedient to produce its full effect, as a consequence, instead of facilitating, it embarrassed the operation. The effects were allowed to pass away, and then with much difficulty the placenta was detached and removed.

Case 15.—*Partial Adhesion.*—A primipara was delivered after an easy labor of six hours. A portion of the placenta descended into the vagina. On passing the hand into the uterus, the remainder of the placenta was found firmly attached near the fundus. With one hand supporting the uterus, and the other manipulating inside, detachment was easily effected.

Case 16.—*Adhesion and Irregular Contraction.*—A primipara delivered with forceps (Case 28.) for eclampsia. The placenta was found adherent firmly over about three-quarters of its superficies, and in a chamber formed by irregular contraction. It was detached with some difficulty.

Remarks.—Of the sixteen cases given, the *cause of retention* was in fourteen cases from adhesion, and two from irregular contraction. In no case was inertia the cause of delay—a result attributable, it is thought, to the practice of firmly compressing the uterus with my own hand, from the time of the expulsion of the head to the severing of the cord. By pursuing this method, and firmly compressing the uterus afterwards, the placenta is usually found in the vagina. If not so found, there is usually adhesion, which, if flooding coexists, will require prompt detachment. In eight of the sixteen cases, hemorrhage occurred; in seven it was not present to any amount. In all the cases the result was favorable. In manipulating for the detachment of the placenta, it has been found greatly preferable to use one hand externally, to support the uterus, while the other is engaged internally, than to trust to even an experienced assistant. The manœuvre, easily accomplishable in the one method, has been found difficult by the other.

FUNIS PRESENTATIONS.—*Presentations of the cord* have occurred in five cases. *Number of labor.*—Mostly multipara, one only being a primipara. *Duration of labor* varied from four hours to two days. *Complication.*—In one case the face presented with the cord, in one the hand and cord came down together, and one was a premature birth. *Sex of children* in all was male. *Mode of delivery.*—The simple cases were left to nature, except the case of two days duration, which was perforated. Embryotomy was also performed where the face presented; the third complicated with the arm suggested version, and in this only was the child saved.

Results.—Mothers all saved. To the child, embryotomy was fatal twice; once the birth was premature; twice compression of the cord caused death; and one was saved by turning.

Twins. *Case* 1.—A multipara, in her tenth parturition, was delivered, after three hours labor, of two girls. No delay occurred between the births; both presented by the head. Two placentæ.

Case 2.—Multipara, delivered of two girls after a labor of twenty-four hours, both presentations being vertex. The patient was completely unmanageable, and during the expulsion of the second fœtus, tossed off the coverings completely, so as to expose the fœtus in its passage. The fœtus was expelled, together with the placenta, the membrane not being ruptured. Single placental mass.

Case 3.—Multipara, about six months and three weeks advanced in pregnancy, confined with two girls, the first presenting by the vertex, the second by the breech. The children died on the day after birth.

Case 4.—Primipara, delivered of a boy after a labor of eight hours, vertex presentation. Uterine efforts now ceased, and were not renewed until forty-eight hours after the birth of the first child, when a girl was expelled also by vertex presentation. Both children were born alive.

Case 5.—Multipara, delivered of her third conception after a labor of nine hours. Two girls, both vertex presentation.

Case 6.—Primipara, delivered of two girls after a labor of forty-eight hours; both vertex; single placenta.

Case 7.—Multipara, delivered of her ninth conception after about one hour of labor. The children were both females. The presentation of the first was unknown, having been born before my arrival; the second was breech; two placentæ.

Case 8.—A primipara, anasarcous for two months, had complained of headache and occasional dimness of vision for some time; urine highly albuminous; both children presented footling, and were delivered with an interval of seventeen hours; both lifeless. The mother died on the third day, with granular degeneration of the kidney, as confirmed by the autopsy. No convulsions occurred; single placental mass.

Case 9.—A primipara, delivered of two boys after a labor of fourteen hours; both children presented by the breech, and both were in sacro-anterior positions; there was but one placental mass.

Case 10.—A primipara, delivered, by forceps and by version, of two girls, both still-born. When seen, she was quite comatose, having had fifteen convulsions; the first child was delivered by forceps, the second by turning; the woman was quite pulseless, and appeared moribund, but eventually recovered.

Case 11.—The first fœtus presented with hand, cord, and foot. Delivery was effected by version twenty-one hours after the commencement of labor. Pains then ceased, and were renewed, with partial effect, under the use of ergot; the soft parts became heated, and, as the fœtus seemed dead, perforation and speedy delivery seemed desirable; but this opinion was overruled, and after a delay of thirty-two hours more, a dead fœtus was expelled.

Case 12.—A primipara, æt. 22. The first child presented in the right-occipito-anterior position; the second by the breech. Both were females, and born alive.

Case 13.—A multipara, with her third conception, was in labor about four days. The first child presented right-occipito-anterior, and was born alive; the second presented by hand, cord, and foot, and required to be turned; both were boys, the second being still-born; there were two placentæ.

Case 14.—A multipara, in her sixth labor, was delivered two hours before my visit, of a living male child. Friction had been maintained, but labor did not progress. The membranes were ruptured, and with the second pain after, a female child was expelled, also alive. Both presentations were cephalic; the children were full-sized; the two placentæ were very heavy.

Case 15.—A primipara, aged 23 years. Her labor had been of about forty-eight hours duration when seen by me and the head of the child though small and quite movable had not made perceptible progress for nearly twenty hours. There appeared to her attendant no special cause for delay for the pains had been sufficiently energetic to effect delivery. The size and shape of the abdomen drew attention and inquiry was made as to the possible existence of twins as a cause of delay. After waiting to see the effect of contractions it was decided to assist with the forceps, which was accordingly done, and a living male child delivered under a moderate influence of chloroform and ether mixed. Another child was discovered, also presenting by the head; but the uterine energies seemed to have been so much impaired as to be unable to expel the fœtus. Ergot was given, and produced some effect. About three and a half hours after the expulsion of the first child, a female living child was born without instrumental aid. There was but a single placental mass. This case is referred to as Case 29 of Forceps Deliveries.

Remarks.—Number of Labors.—Of the fifteen cases, seven occurred with multiparæ, and seven with primiparæ, one being unrecorded. *Sex.*—Noted in twelve labors; of these, two boys occurred twice, two girls seven times, a male and female in three instances. When the sexes have been opposite, the male has been the first born. *Presentations.*—Noted in fourteen cases; of these, two cephalic presentations occurred seven times, two breeches twice, one head and one breech three times, and twice with the second twin, a hand, the cord, and a foot presented. *Results.*—Living births for both twins occurred eleven times; both were still-born twice; and twice only one of the children was dead. One mother died from albuminuria. *Interval.*—In one case, forty-eight hours elapsed between the two births, once thirty-two hours, once seventeen hours, and once three hours; in the others, the second labor came on so rapidly as not to require notice. *Number of Placentæ.*—Recorded in nine cases. Of these, a single mass was delivered five times, and in four cases two placentæ were expelled.

Rupture of Uterus. *Case* 1.—Was seen after about two days labor. For thirty-six hours after the rupture of the membranes, there was little or no pain; the pains then became satisfactory, and the attendant supposed the labor would soon terminate; but the pains ceased, vomiting ensued, the skin became cool and clammy, and the pulse feeble, but the head did not recede, nor had any sudden, sharp pain, been noticed. These symptoms had occurred about seven hours before my visit. When seen, the patient was cool and clammy, pulse almost imperceptible and very rapid, vomiting frequent; over the hypogastrium a soft fluctuating tumor, which was supposed to be the bladder, but was proved not so by the catheter; per vaginam could be felt the forehead, the right orbit being at the right acetabulum. Forceps were tried, to save the child if possible; but the soft fluctuating feel created a suspicion of the nature of the case. The instrument, though locked pretty readily, slipped from the head. The perforator was then used, and a large quantity of bloody serum escaped, and the cranium collapsed and was readily removed by the crotchet. Care was exercised to produce uterine contraction, and stimulants freely used. The placenta was found in the vagina, and removed. The patient lived four hours after delivery, and about eleven hours after the supposed time of rupture. *Post mortem.*—On opening the abdomen, about half a pint of fluid blood was found. The peritoneal coat did not exhibit a rupture positively, but was supposed to be torn in the removal; for in the vicinity of the rent, the uterine tissue was softened. Upon the uterus, in spots, was a slight deposit of lymph, and some pus was found between the bladder and pubes. On opening the uterus, which was large, dark, and somewhat softened, a rent was discovered on the right side, anteriorly and near the neck; the vagina was intact.

Case 2.—A woman, æt. 20 years, who had had one abortion previously, and one severe labor, in which the child was still-born, was seized with labor-pains about forty-eight hours before my seeing her. Labor had progressed favorably until the head had descended to the cavity of the pelvis. About this time the contractions ceased, but abdominal pain was present, and also vomiting. Her attendant attempted the application of the forceps, but the head receded on the introduction of the second blade. When seen, the patient was pale, livid, and distressed, tossing and complaining when the abdomen was touched, vomiting a yellow fluid, the pulse over 150. Through the abdominal walls the form of the fœtus was abnormally distinct. A perforation existed in the perineum, and a band was found in the vagina, the results of the former labor. The finger detected the head above the pubes. Forceps and embryotomy not being applicable, the question of gastrotomy was mooted, but decided against. The patient died ten hours after the supposed time of rupture, and three hours after the consultation. *Autopsy seventeen hours after death.*—On opening the abdomen, some bloody serum was found, and the fœtus, entirely escaped from the uterus, was lying in about the first obstetric position. In the flexure of the knee a knuckle of intestine rose up intensely reddened and covered with a film of fibrin. The omentum and parietal peritoneum also showed marks of inflammation. The child being removed, the placenta could be seen extruded from the uterus, while the uterus itself was in the right iliac region, measuring six inches in length by four and a half in breadth. The os uteri was not torn, but an inch above it, and on the anterior aspect, a large transverse rupture was found. The anterior vaginal wall was also extensively lacerated. The dimensions of the pelvis were: superior strait, antero-posterior diameter four inches, transverse four and a half; inferior strait, transverse three and a quarter, antero-posterior four and a half. The pubic arch resembled that of a male pelvis. The ilio-pectinal eminence on the right side was quite sharp.

Case 3.—A multipara, æt. 35, in labor with her sixth child. Her previous labors had been easy and natural, with the exception of the first, which was tedious. For about thirteen hours the present labor progressed slowly, with weak and inefficient contractions. About this time the pains ceased; there was no sudden pain, no outcry or sensation of tearing, and the head, which had presented in the left occipito-anterior-position, did not recede. About seven hours after the cessation of the pains, she was visited and found lying on her back, with a sunken, haggard, and pale countenance, tossing to and fro, complaining of pain over the whole abdomen, right shoulder, and legs, the surface cool and moist, the pulse feeble and about 160. On examining the abdomen, portions of the fœtus could be distinctly felt on the left side, but on the right they could not be distinguished; the head had not receded. After passing the catheter, by which bloody fluid escaped, delivery with the forceps was attempted. The instrument used was of bad workmanship, and the blades yielded when delivery was nearly effected. Perforation then became necessary, and after removal of several pieces of bone, a male fœtus was delivered. The woman lived one hour and a half. No autopsy could be obtained.

Case 4.—Was seen with Dr. Metcalfe, by whom it has been published in the N. Y. *Medical Times*, *Nov.*, 1854. This patient recovered.

Case 5.—This case was reported by Dr. J. S. Monell, in the *N. Y. Medical Times*, Oct., 1854. The patient presented herself at my office about a year after in apparent good health.

The following case did not occur in my practice, but as it has never been published, it is now presented, somewhat compressed from the statement of Dr. E. W. Owen, by whom it was furnished at my request. A woman, aged thirty-seven years, in her seventh confinement, of good health, spare habit and nervo-sanguineous temperament, had suffered no more pain before labor than is usual. Labor commenced about noon; was summoned to, and saw the patient, at seven P.M. On examination, found the membranes protruding, the pains, having a true expulsive character, recurring at regular intervals, and having a good duration, the presentation perfectly natural, the parts dilatable, well lubricated and cool. At one and a half, A.M., during a strong contraction, the patient complained of acute pain in the back and abdomen, running up in the direction of the umbilicus. The contractions ceased suddenly. The patient, during the pain, remarked that she felt as if she should burst. Made an examination during the pain, there was no recession of the head, no alteration in the form of the abdominal tumor, no perceptible hemorrhage. The patient desired to sit on the chamber, and I retired. She had no sooner got upon her feet than she fainted. I was hastily summoned, and found the countenance pale and sharp, surface cold and clammy, pulse rapid, wiry, and fluttering; made an examination, found the head had not receded; vomiting shortly occurred of dark, red fluid; assistance was summoned; forceps were applied, and a still-born fœtus delivered, followed by two or three quarts of blood. The child weighed between twelve and thirteen pounds. During my absence for aid, a change in the form of the uterine tumor had taken place, the uterus having broken away and occupying the right upper abdomen, the fœtus, the lower and left, the head not receded. Death ensued in less than two hours after the rupture. P.M.—No clots, no inflammation; the uterus was excessively large and firm. The rupture was a bilateral one, two and a half inches in extent of the vagina and cervix uteri at its posterior lip where it forms the *cul de sac.* On incising the uterus from the rent up to the fundus, the walls were found more than double their usual thickness. From this we inferred that such immense muscular power exerting its force from above, together with the large size of the fœtus, was the cause of this unfortunate occurrence.

Autopsy of a Case of Ruptured Uterus.—This case was seen only after death. At the autopsy, the following history was given. The patient, about thirty years of age, had had one instrumental labor; the second natural, and the third the fatal one. Labor pains began on the morning before death, but no presentation could be distinguished; later in the afternoon the labor seemed nearer its close, but suddenly the contractions ceased, and pain in the epigastric region was complained of with dyspnœa. Forceps were used with great difficulty, and proving ineffectual to deliver, the perforator was used, and with much effort the head drawn down. A handkerchief was now tied about the neck of the fœtus, and three operators, by successive efforts, drew down and delivered the fœtus. The woman died in an hour. The fundus uteri extended to the umbilicus. Large clots were found in the abdomen, and also some fluid blood. A laceration existed on the anterior aspect at the junction of the vagina and uterus about three inches long, transverse in direction, with ragged edges and greatly ecchymosed. The antero-posterior diameter of the superior strait measured three and a half inches, the transverse five inches, the promontory was very projecting.

Case Simulating Rupture.—A multipara, æt 31 years, in her seventh labor; for some time the labor progressed slowly; suddenly, after a severer pain than she had experienced, she began to complain of pain in the epigastric region, which she compared to a "foot sticking in there," and she exclaimed that she "should burst." As she was ordinarily a quiet woman in her labors, some apprehension of rupture was felt. She felt weaker, but the pains continued. The membranes were ruptured, and in about an hour the fœtus was expelled alive. As the uterus contracted two distinct indentations or depressions were felt in the fundus. Four days after some fever developed, and the pulse ran over one hundred and twenty, but in about four days she was able to sit up.

Remarks.—Six cases of rupture are given as having been seen by myself, one furnished by Dr. E. W. Owen, and of one the autopsy only was witnessed. For the sake of convenience the result of the whole are tabulated. *Results.*—Of the eight cases, six proved fatal to the mother, and two recovered; to the child all were fatal. *Number of labors.*—All were multiparæ *Cause of rupture.*—Hydrocephalus of the fœtus in one case, contracted pelvis in two cases, and in one case an abnormally thick muscular uterus, with a large child, was supposed to have been the cause. In one case there was reason to presume that mal-adroit attempts to deliver had produced a laceration. *Duration of labor.*—Two days or more in two cases. *Cessation of the pains.*—Occurred in four cases, *vomiting* noticed in four cases. *Presentation*—All were head. *Mode of delivery.*—By perforation in four cases, by forceps once, by turning once. Died undelivered one. *Lived after rupture.*—Recovered two. Death in eleven hours one, in ten hours one, in twenty-one hours one, in two hours one. *Seat of rupture.*—Anteriorly near neck in three cases; posteriorly one case, on right side in one case.

INVERSION OF THE UTERUS.—The only case in which this accident occurred was seen in connection with Dr. M. D. Van Pelt, by whom a report was made in the *N. Y. Medical Times*, for February, 1853. The case was one of interest in a medico-legal point of view, and also from the peculiar mode in which the inversion, or rather eversion occurred. The uterus was not indented from the fundus, but the inferior portion seemed to have turned out, giving a sort of trumpet shape to the lower part of the organ. Restitution was readily effected, and the woman recovered. Dr. V. P. has given the particulars of the case.

MONSTROSITIES. *Case* 1.—*Anencephalous Fœtus.*—A multipara, aged 28, pregnant with her third conception, was prematurely seized with labor pains resulting from domestic calamity. At the first examination no presenting part could be discovered, the vagina being filled with the bag of waters. Some abnormity was suspected, and the membranes allowed to rupture spontaneously. The presentation of the face could be then made out but from the deficiency of frontal bone an anencephalous fœtus was inferred. At each pain, liq. amnii continued to gush, so that the bed was saturated, and a large puddle formed on the uncarpeted floor. Great exertion on the woman's part was necessary to deliver the shoulders, which were firm and brawny The fœtus just before expulsion gave a convulsive start, but was born dead.

Case 2.—Multipara with her fourth conception. During gestation she had had much domestic annoyance. On examination the face was found presenting, and the sharp edge of the frontal bone toward the right acetabulum, and beyond this a soft mass could be felt. The previous case led me to anticipate a similar fœtus. There was no profuse gush of waters, and no abnormal development of the body. The fœtus was a male and was born alive. It cried, passed urine, and fæces, and lived fifty hours.

HYDROCEPHALUS.—Three cases have occurred, in all of which perforation was employed as the means of relief, and the cases will be found under that head.

The risks attending this complication are illustrated by two of the cases. In the first, which was a breech presentation, vesico-vaginal fistula resulted from the pressure which would not have occurred under more enlightened advice. With another case, rupture of the uterus took place with fatal issue. In the remaining case the diagnosis was so obscure, that three intelligent accoucheurs (one a Professor of Midwifery,) did not suspect the complication, until the perforator revealed the truth by a gush of serous fluid.

VESICULAR MOLE. *Case* 1.—A primipara, in about the seventh month of conception, had some hemorrhage, for which my attendance was requested under the supposition of placenta prævià. An expelled mass was shown, which on examination proved to be a conglomeration of vesicles, many of them being as large as a hazel-nut. Some similar bodies protruded from the os uteri which were removed. On inquiring into the history of the case the patient said, that for five months after supposed conception, she enlarged rapidly, less so after that. No motion had been felt. The areola was well marked. Ergot was advised to complete the expulsion of the "mole," but proved of little avail. On the next day another portion was spontaneously expelled, after which she left the asylum.

Case 2.—A multipara, in her second gestation. For three months the ordinary signs of pregnancy were present, but about this time the nausea became more persistent and distressing, and severe neuralgia of the head occurred. Subsequently there was some slight hemorrhage, which lasted until visited a few days before the development of the case. After about eight hours of pretty severe pains, the os uteri became sufficiently dilated to admit two fingers, with which about a pint of "hydatids" were scooped out. Considerable hemorrhage took place during this process, and stimulants became necessary. Convalescence was slow, and on several occasions a few vesicles escaped with some hemorrhage. Neuralgic pains also, were severe, for which tonics were freely given. She recovered.

FORCEPS CASES. *Case* 1.—A primipara, having been for twenty-eight hours in labor, was delivered of a boy by means of forceps. The child was alive. In this case the membranes had been ruptured for thirteen hours, and the head on the perineum for about eight hours. The soft parts becoming hot and painful, with diminishing pains, delivery was deemed necessary.

Case 2.—A primipara, æt. 30. At the first examination the membranes were found to have been ruptured, and the os uteri of the size of a quarter dollar. Severe pains for nineteen hours proving ineffectual to deliver, forceps were used, and a male child born alive. For some time afterwards the patient complained of pain, and difficulty of moving the right leg.

In this case chloroform was used, and it was supposed to be the first case in which that anæsthetic was employed in midwifery in this city. The date was January, 1848.

Case 3.—A primipara, æt. 37. Membranes ruptured before examination, and the os uteri about one inch in diameter. In the course of four hours the os tincæ was dilated, and the head at the inferior strait in the right occipito-anterior position, but no progress beyond was made for eleven hours. The pubic arch was contracted. By the aid of forceps a female child was delivered almost lifeless, but was resuscitated. In delivering the placenta it was found to be in a chamber, (as it were) of the uterus, produced by irregular contraction. Chloroform relieved this stricture, and delivery was readily completed.

Case 4.—A multipara, æt. 26, was delivered of her third conception, a girl, by forceps, after a labor of twenty hours.

Case 5.—The instrument used for the delivery of the head of the first twin, as referred to Case 17, of breech, and Case 9, of twins.

Case 6.—A primipara, æt. 24 years, delivered after a severe labor of forty-eight hours duration, of a living girl. Dilatation of the os proceeded but slowly, and after its completion the pains were not effective for delivery.. The contractions commenced with apparent force, but, before producing expulsive effect, violent pain through the hips and down the thighs occurred, which seemed to cut short all bearing down effort. For this it was supposed that chloroform might be serviceable, but its use was overruled. Opium seemed to control it temporarily. Venesection was also used. As a final resort forceps were employed, and delivery easily effected. An adhesion of the placenta about two inches in diameter, presented the expulsion of the placenta, and required detachment manually. This patient was attacked with puerperal fever on the third day after delivery, and lingered until the seventeenth day when she died.

Case 7.—Referred to as Case 10, of twins. Protracted convulsions rendered delivery necessary, and as the head was in the pelvic cavity forceps were applied.

Case 8.—Referred to as Case 1, of rupture of uterus. Forceps applied but slipped from the yielding of the head—the fœtus being hydrocephalic.

Case 9.—Referred to as Case 3, of rupture of the uterus. The blades of the forceps sprung during traction, which was not severe.

Case 10.—Primipara, æt. 33. The membranes ruptured twelve hours after the commencement of labor, and slow progress was made for two hours, when the caput succedaneum was almost at the vulva. No progress was now made for eight hours, and forceps were used. A living male child was born.

Case 11.—A multipara, æt. 23, in her third labor. Her attendant stated that the head had occupied the inferior strait for twelve hours without advancing. Four hours more were permitted to elapse before proceeding to delivery. This was readily effected by the short forceps; child lived.

Case 12.—A primipara, aged 20, was delivered by forceps of a male child (living), after a severe labor of thirty hours. For about thirteen hours there was no advance of the head, though the contractions were energetic.

Case 13.—A primipara, aged 27, was seized with eclampsia, on the day but one previous to visit, and at the time of delivery she had had fourteen convulsions. No fœtal pulsation could be heard; but the use of forceps was deemed preferable to perforation. A still-born male child, weighing nine pounds and three-quarters, was delivered. The woman died of puerperal fever, which was prevalent at the time.

Case 14.—Case 3 of Placenta Prævià. A primipara, aged 29, was seized with flooding, during the seventh month of gestation, which continued for a fortnight before my visit. Natural efforts, though seconded by ergot, failed to deliver. The forceps were easily applied, and delivery quickly effected; but the hemorrhage had been too long continued, and the patient survived only an hour and a half.

Case 15.—A primipara, aged 24 years. After a slow progress of labor for seven hours, the head in the right-occipito-anterior position reach the perineum; here it remained stationary until forceps were used, twenty-nine hours after the commencement. In the meanwhile, she took some sour milk, which soon purged her freely, with borborygmus and pain. The use of instruments was advised, but rejected some hours before delivery. At the time of delivery the labia were œdematous, with a yellowish vaginal discharge, and pulse 130. The child, a female, was still-born. The patient had a protracted convalescence.

Case 16.—A primipara, aged 30. Had three convulsions before delivery, which was effected by forceps, and subsequently one more. The child, a male, was still-born. Albuminuria existed.

Case 17.—A primipara, aged 33. At the time of visit she had been in labor about forty-eight hours, the membranes having ruptured about thirty hours. No progress had been made by the head for eight hours. The child, a girl, was born living, but lived only for a short time.

Case 18.—A primipara, aged about 30, strong and plethoric. About three hours after the commencement of labor, the water escaped. Her attendant had made attempts to dilate the os manually, and supposing that he had succeeded, was desirous that forceps should be used. At my first visit the os uteri was about one and a half inches in diameter, with a thick hard undilatable margin. Opium was advised, and this failing, chloroform was to to be given. In the afternoon she was again visited, her attendant stating that he had again "used manual dilatation, and with good effect;" that chloroform had been used, and the os was fully dilated. On examination the os uteri was about three inches in diameter, and rigid in the whole circumference. Venesection was advised. At the next visit, the os was fully dilated, and forceps were used, and a dead male child delivered, weighing ten and a quarter pounds.

Case 19.—Referred to as Case 11, embryotomy. Forceps were used prior to the perforator. A primipara, aged 30. Length of labor four days.

Case 20.—A primipara, aged 30. Position right-occipito-anterior. Labor tedious and with much pain posteriorly, even while the head was at the superior strait. A chill had occurred, and her attendant had deemed delivery advisable. Forceps were readily applied, and delivery effected. There was no pulsation in the cord around the neck, and the child, a boy, was still-born.

Case 21.—A primipara, aged 23 years, had been in labor for fifty hours. At the time of my visit the head was low in the pelvis, but uterine efforts did not advance it. After watching for an hour, forceps were used and a male child was born living.

Case 22.—A multipara, aged over 35 years, with her fifth conception. On two occasions previously, instruments had been used. She had been in labor thirty-eight hours, and though the pains were strong, no progress was made to delivery. Chlorofo rm having been premised forceps were used, and, with severe exertion, a boy extracted still-born.

Case 23.—A primipara, æt. about 23. She was said to have been in labor for two days. No progress having been made for some hours, forceps were used. The delay was owing to the position, left occipito-posterior. A living male child was delivered.

Case 24.—Refer to Case 11, embryotomy. The forceps were readily applied, but traction did not cause the head to descend; and as the fœtus was dead, the perforator was preferred to the use of more violent exertion with the forceps. The patient was a primipara, æt. 27. The child a female.

Case 25.—A primipara, æt. 28 years, had been in labor four days. The child, a male, was born alive.

Case 26.—A multipara, æt. 43 years, with her eighth child. In the absence of her attendant, this patient was seen about midnight. Her labor commenced with rupture of the membranes; and about twelve hours after, her attendant gave her ergot, and left with the belief that the os uteri was fully dilated. On examination the os was about the size of a half dollar. The pains were ergotic, "crampy," continuous, and very distressing. In about four hours the os became dilated, except the anterior lip. About twelve hours after, as no progress was made, forceps were used, and after severe traction, a male child, weighing twelve pounds, was extracted alive.

Case 27.—A primipara, æt. 22 years, had been in labor about two days, and attempts made to deliver with forceps. On examination, deep and extensive lacerations of the labia were found, the result of the previous manipulations. No difficulty was experienced in locking the forceps, and delivering a still-born male child, of rather more than ordinary size and weight.

Case 28.—A primipara, æt. 25 years, strong, plethoric, and anasarcous, was taken with convulsions during the dilatation of the os uteri. For this she was bled. When seen, she had had seven more fits, and was lying in the coma of the last. On examination, the head was found in the cavity of the pelvis in the left occipito-anterior position. The urine had accumulated, and was removed by catheter; it was strongly albuminous to heat and nitric acid. The child was believed to be dead; nevertheless, forceps seemed advisable, and the event proved them to be the proper instruments. A living male child, weighing ten and a half pounds, was readily extracted. The placenta adhered, (Case 16.)

Case 29.—Referred to as Case 15 of twins. A primipara, æt. 33 years, being unable to expel the first twin, after forty-eight hours exertion, forceps were used, and a living male child delivered.

Remarks.—The most striking circumstance in connection with these cases is, the preponderance of primiparous patients. Of twenty-six cases, in which the number of births is noticed, five only were multiparæ,—twenty-one primiparæ. In the multiparæ, the reason for the use of the instruments was, in one, rupture of the uterus; in one, contracted pelvis, which had on a previous occasion necessitated their use; and in one, the imprudent use of ergot, with a very large child, had exhausted the uterine energies. In four cases, the forceps were used for convulsions, in only one of which the child was born alive; and one mother died of subsequent puerperal fever. The duration of labor varied from nineteen hours, the shortest period, to four days, the longest recorded. The time elapsing during the second stage of labor without progress, has been the criterion for the necessity of using instruments; and in reflecting on these cases, in two instances only has subsequent experience convinced me that nature would have equally well accomplished delivery. In some cases, the application has been too long postponed, and unpleasant consequences ensued. Of the two cases just referred to, one was a head detained after a breech delivery, where proper manipulation would have secured extraction. The other was a simply delayed labor, where the short forceps were used. In all, except this case, the long forceps with a double curve have been used, and proved serviceable. It is often said that the hand that uses is of more consequence than the instrument to be used, a remark generally true, though not always so. On several occasions, my own forceps have succeeded where other instruments have failed; and in one case in particular, a pair of forceps yielded so much, in the course of extraction, as to permit the head to slip through, though the blades were correctly applied.

Results.—Of twenty-four children, fourteen have been born alive, nine are recorded as still-born. Of these nine, two heads were subsequently perforated, two were born in eclampsia, one died during unavoidable hemorrhage. Three mothers have died, two of fever and one of placenta prævia. *Sex.*—Recorded in twenty cases, of which fourteen were females.

The ages of mothers have ranged from 23 to 43 years, the majority being over 30.

EMBRYOTOMY. *Case* 1.—Was performed to deliver a large fœtal head. Though occurring in a public institution, no instruments were to be had for any operation, and in this case the perforator used was an ordinary pocket-knife.

Case 2.—Referred to as Case 3 of breech labors. In the same institution, no instruments being procurable, a trocar was used, and the opening made through the orbit.

Case 3.—The perforator used for an hydrocephalic child, the forceps having failed.

Case 4.—Also an hydrocephalic child. Forceps readily applied, but slipped. Referred to as Case 1 of rupture of uterus.

Case 5.—Referred to as Case 3 of rupture of uterus. The perforator used after the failure of forceps.

Case 6.—Case 4 of rupture of uterus.

Case 7.—A primipara. Duration of labor twenty-nine hours. No fœtal pulsation could be detected, and there was a fetid odor from vaginal examination. After delivery by the craniotomy forceps, there was some hemorrhage. Recovery was tedious. Male fœtus.

Case 8.—A multipara, four days in labor with her second conception. When seen, a fetid odor was perceptible on vaginal examination, the soft parts hot and dry. This woman died of peritonitis.

Case 9.—A primipara, æt. 26, had been in labor for five days before visit. Vaginal examination gave ample evidences of decomposition. In delivering the fœtus, the bones of the head came away separately, as also the clavicle and some ribs. The remnants of the fœtus without the brain and bones weighed eight and three-fourth pounds. The patient lived only two days.

Case 10.—A primipara, æt. 18, was delivered, after a labor of two days. The cord prolapsed by the head, and was pulseless for twenty-four hours. Delivery was readily effected. The woman died.

Case 11.—A primipara, æt. 32 years, had been in labor when seen for two days, during which time ergot had been given, and attempts made to deliver with the forceps. When visited, the caput succedaneum was found distending the vulva, but delivery was impeded by the narrowness of the bis-ischiatic diameter, which was not more than three inches. At the request of the attendants, an attempt was made to apply forceps, but it proved, as was anticipated, unavailing. The perforator was then used, and even after the brain was evacuated, much difficulty was experienced in delivering the head. No less trouble was experienced in delivering the body. The cuticle peeled readily, showing the death of the fœtus before perforation. The uterus contracted irregularly, and the hand was passed to effect the detachment of the placenta.

Case 12.—This case had been under the charge of two different practitioners; the first of whom said he had found an arm presenting, which he had returned, and then resigned the case to the second, who found the cord prolapsed and the face presenting in the left mento-iliac position. He had tried forceps ineffectually. On visiting the case, about a foot of the funis was found prolapsed, the face was at the superior strait, looking to the left side, the chin being posterior. The cord being pulseless for a long time, the child was presumed to be dead, and cephalotomy the proper means of delivery. The perforator was pushed through the scalp-tumor which had formed on the right frontal bone, and after breaking up the brain, delivery was effected by craniotomy forceps and the crotchet. As the head was being delivered, the occiput rotated upon the crotchet as a pivot from right to left, into the hollow of the sacrum, and was thus delivered, the chin being under the pubes; restitution occurred toward the left thigh. The shoulders were delivered manually, and the placenta passed without assistance; child, a male.

Case 13.—A primipara, aged 30, had been in labor four days before my visit. The pulse was 122, with no abdominal soreness; the bladder was distended. Per vaginam the head was pressing upon the soft parts, the sutures sharp and bones overlapping. There was no uterine contraction, and had been none for five hours. The catheter was passed. After an unsatisfactory attempt with the forceps, the scissors were used. By the crotchet the cranium was pulled away piecemeal, and, with much difficulty, the remnant of the head and body were delivered, a great explosion of fetid gas following the expulsion. The placenta was found enclosed in a chamber; and was delivered manually.

Case 14.—A primipara, aged 27, had been in labor for three days prior to my seeing her, the membranes having ruptured within seven hours after the commencement. Per vaginam, the scalp was found turned, and the edges of the bones sharp, the presentation being right occipito-anterior. The inferior strait was contracted, the pubic arch being like that of a male pelvis. The abdomen presented two tumors, divided by a sulcus, which appearance was quite deceptive, as the catheter was stated to have been recently passed. This proved to be an error, for on the delivery of the head, urine gushed out very freely. Forceps were first tried, and though easily applied, produced no effect, and the perforator was then resorted to. Severe traction was requisite, but delivery was finally effected, and the woman recovered.

Remarks.—Of the fourteen cases, one only occurred in my own practice, viz.: the breech case, in which hydrocephalus caused the delay in expelling the head. In no case has a living child been sacrificed, a circumstance attributable to the natural repugnance every conscientious practitioner feels to destroying life, even in emergencies. As, with the one exception, all the cases were seen in consultation, much delay had occurred in seeking advice, and there has been no ground for hesitating as to the mode of delivery. Evidences of fœtal death have been, in all cases, manifest. So much has this been the case, that it has materially influenced the result to the mother; for out of the fourteen cases, no less than five women have died. Of these, one death was from rupture of the uterus, and four from fever. Of ten cases recorded, only one occurred in a multipara. The reason for operating is noticed in eight cases, three were for ruptured uterus; three children were hydrocephalic; twice the funis was prolapsed and pulseless.

UNCLASSIFIED CASES. *Case* 1.—*Presentation Occipito Pubic.*—A German woman, æt. 36 years, pregnant with her sixth child, was delivered, after a very tedious labor of twenty hours. Her previous labors had been easy and rapid. In this, though the contractions were sufficiently energetic, but little progress was made, owing to the position of the child. At the superior strait, the presentation was easily made out by the occipital and sagittal sutures. The latter occupied the antero-posterior diameter of the superior strait, and the head was with difficulty expelled in this position.

Case 2.—*Labor with Disease of Heart.*—*Death.*—A multipara, in her seventh pregnancy, began to complain about two months before term. Irritability of stomach, deficient secretion of bile, scanty and high-colored urine, the pulse full and bounding, were prominent manifestations. Venesection relieved the symptoms temporarily. A week later she was troubled with cough and slight hemoptysis, for which no pulmonary cause could be found. On consultation, the venesection was repeated, and antimonials used, with good effect. The cough subsided, and the urine became copious, having no albumen in it. A careful examination of the heart now discovered hypertrophy, with a systolic murmur, having its intensity over the aortic valves. The improvement lasted about a fortnight, and the patient suffered more than before. The respiration was difficult, and she could not lie down; the sputa were streaked with blood. A different consultant was called in, who advised enemata of turpentine and a solid diet, in order to relieve flatulence. These measures did not relieve. The pulse was tense, strong, and bounding, causing the radial and ulnar arteries to start, with the violence of the pulsations; the cough was frequent, and expectoration bloody. A small bleeding was ventured, but the force of the pulse was broken at once, and the arm tied up. On renewed consultation, it was determined to anticipate labor; and, to induce premature contraction, compressed sponge was inserted within the cervix, and the vagina plugged. These measures seemed to coincide with labor, though the patient was not conscious of it; for in about four hours the os uteri had dilated to two inches in diameter, and the membranes had ruptured spontaneously. No relief was obtained by the evacuation of the liquor amnii. While I was in an adjoining apartment, she arose to the close stool, and when called, I found the head had emerged while in that position. The patient was placed in bed, and soon the body of a female child was expelled living. The placenta remained partly within and partly without the os uteri, strong pressure being kept up over the fundus uteri; but there was no flooding. After some effort on the woman's part, and the ineffectual use of ergot, the placenta was delivered manually and with less than the usual loss of blood, and the uterus contracted well. The patient could not be kept recumbent, but tossed around violently, gasping for breath, but no flooding occurred. Stimulants were actively given for more than an hour, when she started up wildly, gasped, and died.

Case 3.—*Dyspnœa after labor threatening dissolution.*—A multipara, aged 30 years, with an obscure cardiac affection (hypertrophy) was troubled with dyspnœa during the latter months of gestation, which precluded exertion even to a moderate extent. The labor was short, the pains being lengthened and efficient, but all outcry was stifled by self-control. No hemorrhage succeeded delivery, but almost immediately after the difficulty of breathing became very alarming, the face became lurid, the nails purple, the pulse weak, irregular and intermittent, and she was compelled to sit up in order to breathe. Stimulants were freely used by mouth, and to the nose, and a sinapism laid between the shoulders. Relief gradually ensued, and she recovered without return of the distress.

Case 4.—Was requested to see, in consultation with two practitioners, a primipara, aet. 30, who had been in labor for two days, the membranes having ruptured early, and the subsequent progress being slow. Her attendant was sitting by the bedside, and stated, that about three hours before, the pains had been active and delivery seemed imminent, but suddenly the pains had ceased. The head, he said, was impacted, and the catheter would not pass. The pulse was 100, the skin cool but not clammy. On examining the abdomen, the bladder was much distended. On attempting to pass into the vagina, the head was found delivered, the scalp emphysematous, and the bones loose. Her attendant was much surprised. He was requested to complete the delivery, and with some trouble, owing to the putrid state of the fœtus, did so. Immediately on the expulsion, an explosion of fetid gas occurred, and the bladder was evacuated spontaneously. The woman subsequently died.

Granting her accoucheur's account to be strictly correct as to the cessation of pain, and his *subsequent* examination finding the head still under the pelvis, what effected the delivery? Was it the development of gas by decomposition that silently extended the head?

Case 5.—Elongated anterior lip of cervix.—A multipara with her second child. On making the usual vaginal examination, the os was found about two-thirds dilated, and a teatlike projection attached to the anterior lip. After some time she rose from her bed to go to stool, and was found upon her hands and knees, the child being on the floor, and having lost considerable blood. The cord was divided, and as the woman continued to lose blood, she was replaced in bed before delivering the placenta. This having been done, firm pressure was made over the uterus, which caused the escape of blood and coagula. Per vaginan were found clots, and another substance which was supposed at first to be a clot firmer than the rest. On tracing it up, however, it was found to be the anterior lip of the uterus, elongated sufficiently to protrude from the vulva, about one inch wide at its apex, and gradually widening to its base. This was not interfered with. A similar case had been related to me a few days previous by Dr. Beadle.

Case 6.—Good effects of chloroform.—A primipara, the wife of a medical gentleman, had been in labor when seen, for several hours, the os being dilated, and the pains slow and inefficient; simple delay was advised. The next day, as no progress had been made, ergot was suggested, but no good effects were obtained from it. Her husband had also used chloroform. In the night it was thought advisable to use forceps, as the labor had continued about forty-three hours, the head occupying, for a long time, the inferior strait without advancing for several hours. As a preparatory step chloroform was used, and as soon as the full effect was obtained, the operation was commenced. On attempting the passage of the first blade the head was found descending, and of course the natural efforts were allowed to complete the delivery. The child, a boy, was born asphyxiated, but recovered. In this case two causes had acted to impede labor, first the pains were inefficient, while the second and principal cause was great sensitiveness of the external parts. Chloroform acted kindly in relieving this hyperæsthesia, and then the uterine efforts sufficed to expel the fœtus through a vulva, relaxed also probably by the anæsthetic.

NEW YORK, 64 East Twelfth-st., Sep. 25.

ART. II.—*Report of a Case of Hydrophobia, with Post-mortem Appearances.* By THOMAS TURNER, M.D., Physician to King's County Hospital, N. Y.

N. C., a tall muscular man, aged 45, a laborer, was admitted into the Hospital, Sunday, August 12th. The account given was, that his hands had been bitten while assisting to kill a dog, on the 12th of May last, and that soon after, and before the wounds had healed, he had buried a dog, killed in consequence of his having been bitten and worried by a dog that was undoubtedly rabid. The wounds had healed and he had been quite well until the Wednesday previous to admission. On the afternoon of that day he "felt chilly and trembled all over and vomited." The next day he went to his work, but did not feel well. At noon of the same day he went home and asked his wife for some coffee. He said that when he tried to swallow it, "it went down the wrong throat and strangled him so that it made him spring up to the ceiling." He had not slept any for two nights, and continued getting worse. He was attended by a homœopathic physician, who pronounced it hydrophobia. And he was also examined by Drs. Palmedo and Ayres, his symptoms being considered by them as those of hydrophobia.

At time of admission, his countenance was pale, and he appeared slightly debilitated, but his general appearance was not that of a very sick man. He had been intemperate in his habits, and he talked quite naturally and was of the opinion that his trouble was caused by drinking too much. His pulse was 100. Tongue covered with a thick yellow white fur. Bowels costive and the conjunctivæ slightly yellow. He complained the most of a constant pain at the epigastrium. Had pain in his back between the scapulær and some soreness in the course of the trachea and œsophagus. He said that he "would be quite well only for the nervousness and if he could swallow." He thought a little brandy would make him feel better at his stomach. Some brandy and water was brought. He laughed good naturedly and said he did not like to take it before the other patients. He was taken into another room and the cup handed to him. He sighed deeply a number of times, throwing his head far back each time, and appeared much distressed but made a sudden effort and gulped down the greater part of it.

On seeing him soon after with Dr. Ingraham, he was asked if he would like a drink of milk; he sighed deeply as he had done before when attempting to swallow, and it was noticed that whenever mention was made of his drinking or eating anything, he acted in the same manner.

He was ordered a dose of calomel, and to be cupped over the epigastrium. When taking the powder, he put out his tongue far to receive it, and covered his eyes with his hands, the effort to swallow it distressed him, though not so much as when taking fluids. The calomel operated on his bowels in about six hours after taking it, and he ate supper of bread broken up and soaked in milk.

At bed-time was ordered Morph. Sulph. gr. one-fourth, which he took on his tongue in the same way as the calomel. Was restless through the night and complained of being thirsty, but was afraid to drink.

Monday morning he seemed much worse. Extremities cold, and the whole body covered with a profuse cold perspiration. Pulse 90 to 100, but weak and irregular. Tongue clean and has no pain at epigastrium. His left arm was found to be partially paralyzed. He said he had lost the power of it some time in the night. He was restless and talked much and that mostly nonsense. He was constantly hawking up a tough mucus which appeared to come from the fauces. The flies lighting on his face caused him to start suddenly, and the nurse used a fan to brush them away, but he shuddered and gasped in great distress, and said that fanning took away his breath. He complained also of the light, and of the air when the door or window was opened. He drank some wine and water with more ease than he had the previous day. About 11 A.M. he had convulsions. After these he sank very rapidly and died at 12½ P.M.

Post-Mortem Examination, Twenty-Five Hours after Death.—External appearance—The body was mottled with purplish spots, especially on the extremities. On the back the lividity was general. The nostrils surrounded with frothy matter. Body not emaciated. The cicatrices of the bites on the fingers a little bluer than the surrounding skin. No complaint had been made by the patient of any uneasy sensation, nor had any abnormal appearance been observed in these scars at the time of recrudescence.

The intestines were pink from congestive vessels. The stomach contained some partially digested food, and a quantity of brownish colored fluid. An oval patch, about five inches long by four inches wide, at the greater curvature of the stomach, was denuded of mucous membrane. The blood-vessels enlarged, and over them and along their course the mucous coat was wanting. Liver large, some portions of it were yellower than the rest, but otherwise it was healthy. The heart fully. A fibrinous clot was found in the left ventricle. The mitral valves thickened, and osseous deposit in the aorta near the semilunar valves, but not involving them.

There were old pleuritic adhesions, and the lungs were congested.

The œsophagus, trachea, larynx, tongue, and as much of the pharynx and fauces as could be obtained, were taken out together. The papillæ at the base of the tongue were very much larger than natural. The fauces and epiglottis congested, numerous enlarged vessels were observed, and the follicles of their parts were large and prominent. The larynx also red and congested. Some appearance of œdema about the glottis, and the ventricle filled with a frothy mucus. Lining the œsophagus and pharynx was false membrane extending from the fauces almost to the stomach. This false membrane was thin but well defined, and was rather thicker on the anterior than the posterior surface of the tube.

On opening the head, the vessels of the dura mater were seen distended with blood. The arachnoid thickened and opaline, and subarachnoid effusion was found, and about [illegible] of fluid effused at the base of the brain. The red points seen on slicing the brain were larger and more numerous than usual, and the cerebral substance was softened in the centre of the brain, but this may have taken place after death, as the weather was warm.

On turning the body on its face, the cerebro-spinal fluid escaped freely from the foramen magnum, and it was noticed that this fluid was thick and opaque like pus.

The spinal cord was examined by sawing through the laminæ of the vertebræ on each side of the spinous processes, and on raising the piece thus detached, the investing membranes of the medulla were seen coated with lymph throughout nearly their whole extent. The lymph was deposited more abundantly on the posterior than on the anterior surface of the cord.

Art. III.—*Case of Tubercular Encephalitis, with Pulsating Tumor on the Occiput.* By Jno. S. Andrews, M.D., of East New York, King's Co., L. I.

It having fallen to my lot to witness the termination and autopsy of the following remarkable case, I send the same for publication in the Journal. And in communicating it, two objects have induced me to the task. First, that through the medium of your columns, the result may come under the direct notice of several eminent practitioners in different sections of the States, who have had this patient under their observation and treatment; secondly, believing, from its peculiar and anomalous character, that it will be interesting to all of your readers, and especially those who devote much time to the investigation of disease and its phenomena.

Lamertine Bovay was born in the year 1848, of apparently healthy parents. At birth, his head was noticed to be of the most symmetrical kind; it did not present that elongated appearance common in infancy. His mind, early and during life, was very active, and he was noted for his precocity of talent and rare endowments; possessing, also, an exuberance of all the nobler faculties and gentler affections. Up to the age of ten months, he was perfectly well and not subject to the usual ills of infancy. At this period, an eruption, following vaccination, made its appearance upon his face, and spread over its whole surface, and on to the scalp. For this he was under treatment, and as it subsided, *dysentery* ensued, followed by an affection of the lungs. The last occurred simultaneous with the disappearance of the eruption. This terminated with soreness behind the ears, and glandular swellings of the neck, which, alternating, lasted three years. During the fourth summer, he had a severe attack of *dysentery*, (prevailing epidemic at the time,) which prostrated him so much, that several months elapsed ere he regained his usual strength. In February following, an intermittent neuralgia, as it was then termed, attacked him, characterized by severe pain in the occipital region of the head, stiffness in the neck, and fever which continued for three weeks. Similar attacks followed, of an intermittent or remittent nature, up to February, 1854, when he was seized with some disorder of the lungs. This subsiding, the neuralgic symptoms again appeared, and were marked by a greater severity than before, a disposition to fly from one part of the system to another, and finally locating itself in the back and left side of the head. The finale of this was, a pulsating tumor appearing in the back of the head, and a gradual loss of sight commencing in the left eye. Under a course of treatment which lasted from May till September, his health gradually improved, the tumor disappeared, but there was no noticeable change in his eyesight. He remained in tolerable health,—subject, however, to headache, upon any undue excitement,—until May 7th, 1855, when another neuralgic attack appeared, with nearly the same symptoms as before. About the fourteenth day of this seizure, there was some disposition to unconsciousness, which alarmed his parents, and I was summoned to attend him. From his mother, a very intelligent lady, I gathered the foregoing history. I found him extremely prostrated, suffering at times excruciating pains in the back and left side of his head, and a tendency to stupor in the intervals. The veins of the head were full and enlarged, the eye-lids were closed, appearing like one suffering from intolerance of light, and the eyes were completely amaurotic. A strong light, however, caused the pupils to contract, and the iris moved sluggishly; but he could not discern anything. His cutaneous system was very sensitive, so much so, that he could not bear to be touched. There was an indentation in the occipital bone, directly in the spot where the pulsating tumor appeared. Up to this attack, there had never been a convulsion or spasm; no tendinous contraction or paralysis; no mental aberration or delirium; no derangement of the abdominal organs,—symptoms which usually accompany organic disease of the brain. My diagnosis was somewhat ambiguous, regarding the cause of these rare phenomena; two theories, however, were suggested on reflection,—the first, from his having an aneurism external to the skull, led me to conjecture that there was the same change internal, either continuous or separate; the second, from the history of the patient, that there was some scrofulous disease of the encephalon or its membranes, complicated with an aneurism. With these views, Drs. Ingraham and Turner, of King's Co. Hospital, whom I called in consultation, concurred. On the fourth day of my attendance, he was seized with tetanic convulsions, which lasted several hours. Shortly after this, the aneurism appeared again, and he died five days afterwards, with all the symptoms peculiar to that mode of death by gradual coma.

I would also remark that the paroxysms of pain, and any excitement, were always characterized by a sudden determination of blood to the head.

Autopsy eighteen hours after death.—Present, Drs. Ingraham, Turner, and myself. Body much emaciated and anæmic. On detaching the scalp, a number of large veins, distended with blood, were seen about the middle of the *os occipitis.* Just below the occipital protuberance was observed the depression spoken of, about one-third of an inch in diameter and one-fourth of an inch in depth. This was the location of the aneurism. The position of this depression corresponded with the part within the skull known as the *Torcular Herophili,* where the longitudinal sinus divides into the lateral ones. Covering this hollow in the occipital bone, was a membrane which appeared to be formed by the thickened walls of a distended vein, and on cutting through it, venous blood flowed out freely. In sawing around the cranium, the line of separation was intended to have been made below the depression but the instrument passed through the centre of it. A complete foramen about the size of a large crow quill perforated the bone, and, there was no doubt a free communication between the venous sinuses of the brain and the enlarged vein externally. Removing the top of the skull, the vessels of the *dura mater* were much congested, but no disease of the membrane was discovered. This being cut through, a large quantity of serous fluid was effused beneath it. The vessels of the *pia mater* were highly congested—the *arachnoid* thickened and opaque over the base of the brain, and there was a quantity of subarachnoid effusion in the same region. Around the *chiasm* of the optic nerves, over the *tuber cinereum* and anterior surface of the medulla oblongata, lymph was deposited. The divided surfaces of the optic nerves were of a reddish color, presenting quite a contrast to the white appearance in a normal state. Slicing off the upper portion of the brain to the level of the *corpus callosum* and raising up the *commissure,* the ventricles were found distended to thrice their natural size with effused serum. On the left side, embedded in the *thalamus opticus* at its outer border, and contiguous to to the *corpus striatum*, was found a tubercle the size of a large pea. Cutting lower, another larger one was discovered, external and anterior to the first, in the medullary substance of the brain, and examining further, a mass of crude tubercles as large as a plumstone was found in front of the last in the white substance.

The cerebral substance around these tubercles was softened, showing plainly, on comparing it with that of the left side of the brain, that the softening was due to diseased action, and not to any change after death. The posterior portion of the *corpus callosum* and the *fornix* were also very much softened resembling albumen slightly curdled by heat. The *choroid plexus* appeared as large again as usual. In the right lobe of the cerebellum there was a large tubercle. It was round and about one half of an inch in diameter, and softened in the centre.

No other organs were examined, as there were no indications of disease, previous to death, in other parts remote from the head, and the lesions found after death accounted for all the symptoms.

The post-mortem examination was very satisfactory. The lesions were *a tubercular inflammation* of the substance of the brain—the *amaurosis* being an effect of this cause, or of an effusion of lymph, resulting from this inflammation, taking place at and around the origin of the optic nerves.

The probable solution of the pulsating tumor is this: a small vein penetrated the skull, communicating with the torcular herophili and the scalp, and the protracted determination of blood to the brain produced an enlargement or distention of the torcular herophili, and this vein communicating with it, participated in, and received a proportional increase in its calibre. Like the continual drop wearing a stone, so the oft-repeated *vis a tergo* expansion wore the bone; the pulsation was dependent upon the brain; hence the pulsating tumor seen during life, and the foramen found in the skull after death.

Art. IV.—*Report of a Case of Necræmia, with remarks.* By C. C. Willard, M.D., of Greene, N.Y.

On the 18th of Dec., 1854, in consultation with a neighboring practitioner, I saw a patient, a stout, hearty man in the prime of life, in the following condition:—

Pulse varying from 130 to indistinctness, respiration 80 in the minute, slight cough. Expectoration profuse, sputa highly charged with apparently effused blood, a dull heavy pain in the region of the heart, perspiration very profuse, skin clammy, mind somewhat wandering, restless, uneasy, constantly wishing to change his position, but unable to do so without assistance; the right foot presented a very singular appearance; the skin of the first toe seemed to be dead and separated from the fleshy parts, though it still preserved its continuity, with the exception of one or two small artificial openings, from which there occurred a small sanious discharge. The whole foot was of a dark, reddish, brown color, and seemed, for the most part, insensible; a bright red irregular line was seen on the inside of the leg and thigh, very painful, and sensitive to the touch.

The history of the case, from the physician in attendance, was as follows:—On the 14th, the patient called at his office to consult him in regard to his toe, which he alleged to have been frozen some three years previous, and it had troubled him more or less since that time. The toe then appeared white, an erysipelatous blush extending more or less into the foot. A puncture was followed by a very slight sanious discharge, the whole foot was extremely painful and tender. He was advised to apply a poultice.

On the 15th, he was called in haste, and on arriving at the bedside found that on the application of the poultice, the pain had left the foot and appeared in the left shoulder and side. On removing the poultice, the pain had returned to the foot, leaving the shoulder but not the side. Ordered a continuance of the poultice and an anodyne.

16th. Pain in the side increased, pulse rapid, respiration hurried, cough slight, but not painful; no expectoration, prostration great, unable to turn alone in the bed, foot painful as before, erysipelatous blush extending upon the limb. Ordered a blister on the side; emetic and cathartic diluents and nauseants to continue.

17th. No relief to symptoms, emetic and cathartic operated freely; pulse rather faster and respiration more hurried than yesterday—treatment continued. The erysipelatous appearance extending up the limb, caustic was applied to meet and check it, which apparently did so. Such was the history of the case on the eve of the 18th. He was then to all appearance in articulo mortis. From certain peculiar appearances presented by the case, we were led to make some inquiries into its earlier history, and, from his wife, learned that about ten days previous he had, from some source, obtained a prescription to cure chilblains, which was, to bathe the part affected in boiling spirits of turpentine, and he had done so, making the application three or four times a day for two or three days, but the chilblains grew worse instead of better, and he then applied to the physician with whom I saw the case.

After midnight of the 18th, he failed rapidly, notwithstanding the free use of stimulants, and died early on the morning of the 19th.

It has occurred more than once, perhaps, to every practitioner that he has been obliged to form an opinion as to the character and cause of certain cases, from their similarity both in appearance and result to others progressing from a known cause through the same course to the same result. The case just read will, I think, come within the bounds of that class. The symptoms all point in one direction, viz.: to a complete prostration of the vital powers, and this prostration so great, as to be noted particularly within the first twenty-four hours. For the cause of this we must obviously look for a check to some one or another of the parts more intimately connected with the prolongation of life.

Carpenter, in his *Physiology*, p. 451, says:—

"The final symptoms which are common to all these diseases—plague, glanders, pustula maligna, and others dependent upon the induction of some form of poison into the system, have been well described by Dr. Williams, in his principles of medicine, under the title of Necrœmia, or depravation of the blood, —'Almost simultaneously the heart loses its power, the pulse becomes very weak, frequent and unsteady, the vessels lose their tone, especially the capillaries of the more vascular organs and congestions occur to a greater or less extent, the brain becoming inactive, stupor ensues, the medulla is torpid, and the powers of respiration and excretion are imperfect; voluntary motion is almost suspended, secretions fail, molecular nutrition ceases, and structures die and begin to run into decomposition as soon, if not even before the pulse and breath cease.' "

This concatenation of symptoms is said, by this authority, to follow upon the known or supposed absorption of poisonous matter into the circulation, producing, as the name given would indicate, death of the blood.

In many cases of poisonous absorption the effect only is, and ever must be tangible, the cause speculative; in others again the cause, as well as the effect may be satisfactorily traced. At the present stage of pathological research, much in relation to this subject must remain speculative, and the ground, that like causes produce like effects, must for the present, be occupied as terra firma.

That the human system, in certain conditions, is susceptible to the action of animal poisons is admitted by all, and is amply proven in the effect of dissecting wounds, the application of the matter from a glandered horse to an abrasion of the skin, etc.

Now, how can these effects be accounted for, or even the effect of the vaccine virus, otherwise than by calling in question the powers of the absorbent system.

Physiologists tell us that the lacteals and lymphatics are absorbent glands—their proper function being nutritive absorption—that the lacteals have the power of electing and only take up proper nutritious substances, while the lymphatics are prone to absorb whatever comes in their way in the proper form, both discharging their contents into the blood-vessels. With these facts before us, it is not difficult to understand how this disease, necrœmia, or depravation of the blood is produced by the poison being deposited within the reach of the lymphatic absorbents, and carried by them directly into the blood, so that its first and immediate effect is upon the blood itself.

The case recited appears to me to bear a close resemblance to the description given by Dr. Williams of the symptoms attendant upon necrœmia. So close indeed is the resemblance that it seems almost impossible to conclude that it can be any other disease; but, we have no evidence of poison from a foreign source, as in the case remarked upon by the authorities, by them the poison being noticed as having its origin out of the system; how far this may be necessary remains to be seen.

Prof. Wood, in his *Practice of Medicine*, p. 128, says:—"Porrigonous ulcers of the head and face, and the sores so common behind the ears of children, often give rise to inflammation of the lymphatic glands of the neck and the intervening absorbents. The deep seated absorbents may become inflamed in consequence of a contusion, or fracture, or deep penetrating wound, or from their communicating with collections of acrid matter. In all cases the inflammation seems to be propagated by what is termed continuous sympathy, or by the action of acrid matter upon their inner surfaces." The same author also says: "the constitutional symptoms are not usually severe, and that death seldom occurs unless in constitutions enfeebled by intemperance, or in cases dependent upon the absorption of some poisonous agent." Making an evident distinction between poisonous and acrid agents.

In the case under consideration, the patient was a robust, temperate man in the prime of life, yet he died with all the symptoms of necrœmia or death of the blood; but no evidence appears of any inoculation of poison from a foreign source; and the seat of the apparent origin of the disease, together with the season of the year, seems to forbid even a reasonable supposition that such might, by any chance, have been the case. Therefore, we are led to look for a reasonable source of the poison within the system.

Turpentine boils at about 30° Fahr. What would be the effect of this degree of heat upon living animal tissues? Boiling water applied to the skin causes the death of that tissue. In this case we have the repeated application of a much greater amount of heat, sufficient probably to destroy the vitality of the parts almost immediately. Here, then, we should have the dead and living parts in intimate connection. The part so destroyed by the action of the heat is probably as devoid of vitality as though it were actually separated from the system, and being so considered, that part, like other dead bodies, must either contain, or have the power of generating, poisonous matter. Then, the poison being generated almost, if not quite, in contact with the living absorbents, is by them thrown into the blood, and the system, being in the proper condition, is acted on by the poison, and all the characteristics and results of death of the blood from poisonous absorption will necessarily be prevented.

As a sequence, upon this view of the subject, the question might occur whether the constitutional symptoms usually observed to follow the occurrence of mortification, are not the result of poisonous absorption rather than the severity of the inflammation.

It will be noticed that the symptoms of necrœmia, and those that we are taught to observe as indicating it, are very nearly identical. Although a post-mortem examination after death, preceded by these symptoms, does not always reveal the only direct and positive evidence of gangrene, viz.: putrefaction. Neither is the introduction of animal poison into the system always followed by the effects. Inflammation, however violent, never produces these symptoms; they never occur until gangrene supervenes. Hence the inference may readily be drawn, that these symptoms, occurring under different circumstances, so nearly similar, and apparently following the action of a certain cause, may be ascribed to one and the same cause: namely, the action of the poison generated by a dead body, whether or not in connection with living parts upon the blood, whenever that poison shall be placed within the reach of the absorbents, and by them deposited in the blood-vessels.

Art. V—*An Inquiry into the Nature of the anomalous Affection known in the United States by the appellation of "The Nursing Sore Mouth," or "Puerperal Anæmia."* * By M. L. Knapp, M.D., late Professor of Materia Medica, &c.

II.—*Medical Topography of the State of Illinois, the field of the writer's observations.*

The topography of a country throws much light on the character of its diseases; we, therefore, bring to our aid, in this inquiry, the knowledge acquired from observation of the medical topography of Illinois, where we practiced medicine nearly twenty years, and encountered numerous cases of the anomalous affection under consideration; found it so common or prevalent during certain years, that it may be said to have been epidemic, or sub-epidemic, at least.

It is universally conceded, that the face of a country has much influence over its meteoric manifestations; and it is, perhaps, as generally agreed, that the meteoric phenomena, viz.: temperature, vicissitudes, dryness, humidity, play of electrical forces, etc., are not only direct causes of disease, but that they exert the utmost controlling influence also over the vegetable kingdom, governing production, or the staple crops and fruits, during each and every year, thus not unfrequently proving the indirect causes of disease, from the abridgment of food; as famine, partial famine, and even poor diet, are known to be remote causes of pestilence.

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* The researches made by the writer, in preparing this essay, during the winter of 1853-54, led to the investigations into the cause of cholera, which were published in the January number of this Journal.

The endemic influences manifested more especially in low, paludal, or marshy districts of country, situated within the temperate latitudes, as is the case with Illinois, are such as to subject the inhabitants to frequent attacks of the common or ordinary forms of intermittent, remittent, and continued bilious fever. So generally is this the case, that few persons emigrating to a *new* country, of this topographical character, even from lower latitudes, escape attack; those from northern regions and elevated mountainous districts, of old-settled countries, being most pre-disposed. It requires a certain high range of the thermometer, or elevated temperature, to develop the endemic influences, as 65° or 70° F. at least, and for the full effect, that this shall be prolonged for weeks or months, as in summer; and in proportion to the intensity and prolongation of summer heat, as a general rule, will be the amount and malignancy of the summer and autumnal epidemics. By continuing to reside for a series of years in a country of this character, the complexion of persons becomes darker, or more swarthy, and many are rendered permanently sallow, icterode, jaundiced, or cachectic, in their appearance, denoting dilapidation or impairment of the general health. Such persons will be found to have acquired visceral engorgements, tumefactions, and indurations, which permanently derange digestion and assimilation, and tend to dropsical effusions and organic affections. Children born and reared in localities where these epidemic influences are of marked intensity, become old, as it were, while young, presenting a lean, wrinkled, palid appearance, with tumid abdomen and stunted stature, and ordinarily betraying evidence of tardiness of perception and a low grade of intelligence.

In the absence of any positive knowledge of the *nature* of these endemic influences, so deleterious to human health, the medical profession, generally, have tacitly accepted, or acquiesced in the hypothesis of the presence of a poisonous air or miasm, called *malaria* or *miasma.* No analysis, however, of the air in the localities most deleterious to human health, have ever detected any substantive entity or poisonous principle in the air, or the slightest departure from a normal standard, save perhaps a smaller amount of oxygen in the hot weather; and the whole foundation of the dogma rests on inference alone. Other topographical regions, as we shall see, are uniformly subject to marked and peculiar endemic influences, differing in their effects from the above, and hence the notion has arisen of many kinds of malaria, and the epithet of marsh malaria has been applied to the one under consideration. The hypothesis of different kinds of malaria, however, has never come to be as generally acquiesced in, but rather the hypothesis assumed is, that different and diverse manifestations of disease, or masquerades of maladies, are ascribable to marsh malaria modified by place and circumstances. For the last century or more, this sweeping hypothesis has held dominion over the records of medical philosophy, growing with its growth, and strengthening with its strength; and upon it, as a foundation, are now erected the two superstructural hypotheses of the animalcular and cryptogamous theories of the *essential nature* of malaria or miasmata! It is generally regarded as the product of vegetable decomposition, whether it be held to be of animal or vegetable nature: and yet its endemic effects have been witnessed in arid deserts, where no vegetation ever existed, much less animal remains, to produce it. By the best authorities, the affirmative of the question, as to the endemic presence or substantive existence of malaria, is regarded as wholly unproven, altogether assumed.

Again, the endemic influences most manifest in high, hilly, and mountainous regions within the temperate latitudes, are such as tend to develop the local inflammations, or the diseases classed as the phlegmasiæ; and especially is it the case that thousands in those topographical regions inherit or acquire the tuberculous organization or strumous diathesis, and die prematurely of scrofulous affections, particularly of pulmonary consumption. The characteristic conformation of system into which the topographical or endemic influences present seem to mould this very large class of persons, is a small, slender chest, a long neck, pinched nostrils, ruby lips, light hair and eyes, and a fair, thin skin, accompanied with quickness of perception and acuteness of intellect. These influences are said to be rendered more operative by consanguine marriages, and the taint is generally believed to be transmissible from parents to offspring.

A third very remarkable illustration of endemic influence is witnessed in the subjects of cretinism, who are reared and dwell in the mountain gorges of the lesser Alps, and other deep gorges and valleys of moderately elevated countries in middle and southern Europe, and in middle Asia, and probably in other deep and narrow defiles and mountain gorges of the temperate latitudes in other countries. Goitre, or the Derbyshire neck, is generally associated with the deformities that betoken cretinism, and ascribed to endemic influences of the same nature. The influences are such as tend to idiotic deformities of head, a dwarfish, misshapen person, beastly propensities, and idiocy of mind. Every degree of influence is impressed on subjects; some betokening but little of the taint, while others, on whom the vicious influences fall most heavily, degenerate from a bright early infancy to a state of complete idiocy, and the most disgusting deformity. The taint is not inherited, as the children of cretins removed from the localities grow up without deformity; and is doubtless acquired, as infants from other parts transplanted to those mountain gorges, many of them take on the bias and grow up deformed and debased cretins.

Still another striking illustration of topographical or endemic influence is manifested in persons who work in, or are reared in mines, below the surface of the earth. A considerable proportion of persons, so circumstanced, finally become the victims of a form of anæmia more marked with a perfectly blanched or etiolated expression of countenance, and depraved habit and condition of the system, than are manifested, even, by the subjects of puerperal anæmia, the disease which is the subject of this essay; their blood fades, their strength fails, the skin assumes a transparent alabaster appearance, and a hydræmic state of the system prevails.

These are well-known, uniform, and strongly marked illustrations of topographical influences, not to speak of others; and whether they depend on specific, inscrutable poisons present, or are owing to modifications of the general laws governing climates—modified impressions of the vital stimuli—is not a settled matter. If climatic influences have effected the differences in the physical conformation and complexion of the several races, the doctrine held by many, and which must be taken for granted, if all have descended from one pair, it were more conformable to analogy to impute the endemic influences present in any region to climatic laws, rather than to specific miasms; for let the occupants of the different topographical localities, or elevations, spoken of, be transposed, and their systems tend to undergo the modifications of acclimation, a climo-vital process injurious in proportion to extreme susceptibility, tenderness of age, or faulty organization; the efforts of nature (often overshooting the mark) seem to induce the pathological conditions spoken of. Hence, both the danger and advantage that may result from emigration. Hence, also, the origin of the term acclimated. Native organization renders persons more or less adapted to particular climates, and a change of residence is a great resource for invalids.

It follows, then, that there is no climate, topographical position, or class of endemic influences, present in any one region of the world, perfectly healthful for all races, ages, and constitutions, as a permanent residence the year round. Birds instinctively migrate, to avoid the extremes of heat and cold. Men do the same thing rationally, and escape endemic causes of disease, developed only under extreme thermometrical influences. Transfer a New Orleans negro to Canada, and he falls a victim to the climate in a year or two; the same of the Canadian who takes up his abode permanently in New Orleans. A striking example of *artificial* endemic influence is seen in the cruel process of producing enormously enlarged livers in geese, by confining them in hot-houses, or before fires, and giving them full supplies of food and water, for the purpose of preparing from their livers, thus several fold enlarged and deliciously softened by their best blood, the delicate pie so esteemed by the gourmand, called *paté de foie gras;* and this artificial illustration of endemic influence producing visceral engorgements, is by no means barren of instruction in a discussion on topography, climatic influences, malaria, etc. The result is uniform, so far as we are enlightened, and no one would pretend to explain it, we presume, on the hypothesis of the presence of a malaria, though an epidemic should be thus instituted in the geese quarter by the proprietor of a restaurant.

Topography in aid of medical science, then, is to be studied, with reference to physical causes that are known to modify the public hygiene, by affecting climatic modifications in the surrounding vital stimuli, viz.: *food and drink, atmospheric air, heat, light, and electricity;* all of which being absolutely necessary to life, are, therefore, called *vital stimulants;* and no truths in medical philosophy are better known and established, than that mild or medium impressions are salutary, and extreme impressions hurtful. These axioms hold good in regard to the impressions of each and all of the vital stimulants,—the extremes destroying life, and the mean impressions upholding it and maintaining health. These, then, are the natural causes of life and health, and the natural causes of disease and death of not only man, but of the whole organized world, animal and vegetable; and whether or not there are any other *external* causes of disease, except accidents, is very questionable. As to the existence of any substantive essence, or imagined malaria or miasma, supposed to be the cause of the endemic diseases of a country, we are altogether skeptical, or rather, be it said, we disbelieve the hypothesis *in toto.* Changes in the force, quantity, or quality of the natural, vital stimuli, as applied to, or as acting on constitutions or organizations well or ill-adapted to sustain the impressions, are, doubtless, adequate and sufficient to carry out the purposes of Deity in the rise and fall, the life and death, of man, and all other forms of organized existence. Those being our views, in brief, without detaining the reader with a recital of more than the above general principles bearing on this subject, we proceed to take a summary glance at those physical causes and phenomena in Illinois, that modify the healthfulness of the climate.

Physical Geography.—The Mississippi Valley is flanked on the east by the water-shed of the Allegbany Mountains, the highest altitude of the summits of which is about five thousand feet; and on the west by that of the Rocky Mountains, the highest peaks of which are some fifteen thousand feet high. The two inclined plains from these water-sheds bear forward their surface-waters, from the east and from the west, into a common longitudinal trough—the Mississippi River, which has its sources in the paludal summit-level region (latitude 48° N.) that bounds the valley northwardly, and divides it from the waters that fall into Hudson's Bay, the altitude of which summit is about one thousand feet above tide-water. The whole Mississippi Valley, then, pitches to the south nearly one foot in a geographic mile, by which arrangement all its lateral tributaries are deflected southwardly in traversing the two inclined plains, to pour their waters into the great central longitudinal channel of the valley, which bears off all both right and left, onward and downward to the Gulf of Mexico, lat 29° N. Throughout the entire valley, from the sources of the Mississippi to its mouths, intermittent, remittent, and continued bilious fevers are endemic in summer, strongly *epidemic* in some seasons, and increase in force or grade in descending the river, inversely as the latitude decreases, till, at New Orleans, the highest grade of bilious fever passes into yellow fever, which, is often epidemic there.

The state of Illinois lies mid-way between the sources and mouths of the Mississippi River on the eastern side of it. Along its northeastern border, near Lake Michigan, is another summit-level water-shed, dividing the St. Lawrence valley from the valley of the Mississippi, elevated about six hundred feet above tide, which turns all the waters in a southwestern direction. At the mouth of the Ohio River, the Mississippi is some three hundred feet above tide, consequently, the whole area of Illinois is an inclined plain, facing the southwest, pitching some three hundred feet, and presenting the warmest exposure of any topographical arrangement whatever. The extreme southern limit of the State, at the confluence of the Ohio with the Mississippi River, is in latitude 37° N., and its northern boundary is 42½° N., and it lies between 10° and 14½° of W. longitude from Washington, being three hundred geographical miles long by about two hundred and fifty broad.

This general view of the hydrography and topographical inclination of Illinois, reveals an exposure of the hottest character, combined with stagnation in drainage; or such a very moderate descent southwestwardly, that the whole face of the State is so tardily drained of the surface-water from rains and snows, that cold and humidity in winter, and heat and humidity in summer are inevitable results, until the retarded surface-water is evaporated, after which heat and drought not uncommonly close the season. We will now proceed to speak of the leading topographical features of the different sections of the State.

Southern Illinois.—Notwithstanding the physical features of the State of Illinois are such as to give it the character of a level country, still its surface in some parts is a good deal diversified. The southern portion of the State, say about one-fourth of its latitudinal extent, is, much of it, very hilly and broken, abounds in lime-rock, cliffs, ledges, ridges, and abrupt gorges, and is generally covered with stately forests of oak, hickory, poplar, maple, linden, sassafras, sycamore, etc. Grape-vines are abundant and attain to a remarkable size, sometimes nearly twelve inches in diameter, and the sassafras tree, which is only a shrub in more northern regions, often presents a trunk eighteen inches or even two feet in diameter. A hot-house effect seems to be produced on vegetation in some localities, resulting from topographical causes and an extraordinary richness of soil, viz.: alluvial bottoms with southern exposure, along the Ohio, Mississippi, Big Muddy, and Kaskaskia Rivers, protected by bluffs and forests from the presence of even a coast breeze from the north. This is the case with the alluvial point or extreme southern terminus of the State, where the city of Cairo is situated; and while it may be said to be geographically the most eligible and magnificent location for a city in the Mississippi Valley, the curse of *malaria*, according to the received hypothesis, but as we render it, extreme impressions of the surrounding vital stimuli, will forever render it an unhealthy place. The same thing may be said of other low, humid, confined, oven-like localities in the southern peninsula of the State. These southern regions of Illinois, particularly along the rivers, are rugged without being picturesque; but proceeding northwardly, towards the interior of the State, the beautiful and fascinating prairies soon appear. We speak from personal observation, having, the Wabash counties excepted, threaded and explored, on horse-back, the whole length and breadth of the State, from the junction of the Ohio and Mississippi Rivers to the Wisconsin line, Fever River, and the shores of Lake Michigan; we have traversed its prairies, some of them full thirty miles broad, without a ravine, or a tree, or a "lost rock" even by which to mark our progress, or guide us in our direction; we have coursed its rivers by steamboat, and its canal and railroads are familiar to us.

MIDDLE ILLINOIS.—The middle portion of the State—say a latitudinal zone embracing one-half of the length of the entire State—has ever been regarded the *ne plus ultra* region for agricultural purposes, and is of unsurpassed beauty and loveliness in its appearance. It used to be spoken of by our friend, the late Hon. George Forquer, as a "belt" of country pre-eminently adapted to agriculture and railroads; and so frequently was it designated by the appellation of the "belt" in his legislative speeches, during the internal improvement mania of 1836, that he was addressed in debate, by a political opponent of less-favored southern Illinois, as "the gentleman from the *belt*." This beautiful champaign character of country extends across the entire State, from east to west, and the same general character of open country, or plains interspersed with groves and margins of forests along the water-courses, is continued west of the Mississippi, through Missouri and Iowa, and so on to the Rocky Mountains. In the heart of this broad belt of fertile country, in the centre of Illinois, is situated the Sangamon River region, the model portion of the State, and a description of this will serve for a type of the whole State.

The soil is a deep, black loam, of variable depth,—say from one to three feet,—often of much greater depth, where the debris of the soil has accumulated by deposit, lying over a chocolate-colored subsoil, of from five to ten or more feet in thickness, and this on a hard pan of blue clay of several feet, sometimes twenty feet, in thickness, impervious to water. Under the blue clay is quicksand, and in sinking wells, wooden curbs, water-tight, are necessary to ensure progress after penetrating the clay. The water below the clay, as well as the surface-water, to some extent, is impregnated with carbonate of lime, decomposing soap, and rendering turbid solutions of acetate of lead or nitrate of silver; in other words, the wells afford only hard-water. The surface water, in the wet season of the year, viz.: spring and early summer, is inconveniently superabundant; for, as little or none penetrates the blue clay, the summit level prairies present frequent sheets of standing water, or ponds waiting the process of evaporation. These vernal ponds are often diversified with archipellagos of gopher hills and cray-fish chimnies; and when the prairies were not burnt over in the autumn previous, the dried weed-stalks often stand six or eight feet high, sparsely, all over those wet prairies. These summit-level plains between the water-courses, then, are not only open prairies, but often impassable morasses, on account of this miry condition of the surface, in the earlier season of the year. The settlements or farms range along the timber-lines, or forest-belts, that skirt the water-courses on either side.

The rivers run in deep, broad gorges, presenting the appearance of abrupt chasms sunk below the common or general level of the country. The chasms are broad and deep in proportion to the size of the rivers; the chasm in which the Mississippi River runs will average, perhaps, some seven miles broad; that of the Illinois River, about three or four miles broad. The borders of these chasms are either lime-rock palisades or conical hills, with frequent gorges or ravines between. They are called "the bluffs;" are generally clothed with fine timber, sometimes only with grass. The bluffs are high in proportion to the magnitude of the river, and vary in altitude at different points. The bluffs on the Mississippi are frequently two or three hundred feet high, and sometimes present a palisading of lime-work of this altitude for twenty miles in extent, only interrupted by the frequent narrow rivulet and creek-gorges that cut their way through the rocks. The marginal forests that skirt the rivers are broad also, in proportion to the size of the river, and vary in width at different points. The skirting forests on the Mississippi, between the verge of the bluffs and the upland prairies, are not unfrequently ten miles broad. In the Sangamon region the creeks even have marginal forests of two or three miles in width, and the timber is lofty, even to the prairie line—bold, lofty oak and walnut timber of the finest quality on one hand, and the most desirable prairie land imaginable abruptly opening along this fine forest growth on the other.

The alluvial land lying in a river chasm between the bluffs is called a "bottom." It is almost a perfect level from bluff to bluff. In some places the bottom lands are clothed with the heaviest and most dense forests conceivable, and in others they present an open plain, or prairie surface. The river cuts a tortuous channel through this alluvial bottom, at one time hugging the right hand bluff, and then playfully seeking the left. In extremely high water, when a river overflows its banks, the water may extend from bluff to bluff, and the river be, indeed, six or eight miles wide.

This character as regards the rivers and creeks of southern and middle Illinois is universal, there is no exception; and the smallest creeks are miniatures of the Mississippi; the abrupt bluffs, the level bottom, the tortuous channel, the muddy water, absence of pebbles—and question whether you will get through or sink in the mire in attempting to ford—characterize all the streams. There is no such thing as a gradual descent to a river. As you approach a river from the open country or summit-level, the prairie begins to be more rolling near the timber, caused by the sloughs which carry off the surface-water. Along this rolling character of prairie are the cultivated farms, and residences of the yeomen of the country. Finally, the surface becomes hilly and rough, and this character of surface is always clothed with brush or forest timber. Now you are getting into the bluffs. The gorges of the sloughs deepen and widen about in the timber; the hills pitch and swell more and more fantastically, as you approach the river, till, at last, you find yourself on a precipice overlooking the river chasm or bottom, which lies, perhaps, some two or three hundred feet below, and the bluffs on the opposite side of the river gorge full in view.

Some of these views from the verge of the bluffs are of unsurpassed beauty and loveliness. We question whether the human eye ever rested on a more beautiful landscape scene than is presented at the verge of the bluffs west of Edwardsville, at the head of what is called the American Bottom. You stand high above the scene, on the greater curvature of an immense crescent, the horns of which are distinctly defined for twenty miles on either hand, up or down the Mississippi; the towering bluffs of the Missouri side are full in view; and the grand confluence of the Missouri with the Mississippi lies before you in the valley, which is richly diversified with forest and prairie, and the most highly cultivated farms. But beautiful as is this immense bottom, an hundred miles long by an average of six or eight broad, reaching from Alton to Chester, and productive as it is, yielding an hundred bushels of corn to the acre, an hundred years in succession, without manure, still it is like the rice plantations of Georgia, or the shores of an African river, in the production of malarious fevers of the most aggravated forms and pernicious type.

NORTHERN ILLINOIS.—The northern part of the State presents quite a different topographical character. North of a line passing from, say about the mouth of Rock River, eastwardly to Ottawa, and up the valley of the Kankakee, the peculiar characteristics of the more southern rivers are gradually lost; the water in them becomes clear, their channels pebbly, often rocky; their course less tortuous; the banks sloping; the precipice-bound river chasms disappear; the rivers are less affected by spring freshets, or by drought in summer, and the drift of geologists is more common; in some places hundreds of granite boulders appear on a single prairie. The Rock and Fox River Valleys are, perhaps, the best wheat regions in the State, and the water power in those rivers is unlimited. The forests are thin and less lofty than in Southern and Middle Illinois. The face of the country is more rolling, and the prairies more undulating and better drained, than in the Sangamon region; but the soil is not so deep, and is more silicious and gravelly. Wheat is the great staple; corn appears stunted. Upon the whole, it cannot compare with Middle Illinois as an agricultural region, in adaptation for stock raising especially.

THE MINERAL COUNTY OR GALENA DISTRICT.—This region presents the appearance of an interminable jumble of bald hills. The native forest growth, wherever it existed, has been appropriated to smelting uses, and the eye is fatigued with the sameness of the scene, where all the hills seem to be of equal hight, as if cut down out of a level country by sinking surrounding gorges. The city of Galena is built in a deep gorge of these hills occupied by Fever River. There is barely space for one business street along the little, insignificant river, so that the back streets have to be cut, terrace-like, in the hill sides. They are reached by carriages with difficulty and danger. There are few cross streets, it being impossible to ascend the hills in a direct line from the river. One-half of the city has escaped from this gorge, and crowns the summits of the hills, some two or three hundred feet high; and, for the convenience of transit up and down, wooden stairways are erected. There are two climates, therefore, in Galena; the climate under the bluffs being desirable in winter, and that above the bluffs in summer.

Agriculture has been greatly neglected in all the mining country, not half enough provisions being raised for home consumption. The country presents no inviting aspect to the farmer; unlike most other localities in the State, the prairies are broad, and without groves of timber, from Galena to the Rock River settlements, eastwardly, and, therefore, not settled upon; and the consequence has been, that supplies, not only for the mining population, numbering, perhaps, ten thousand, but for about an equal population in the city of Galena, have been hauled from the Rock River mills and farms, or shipped from St. Louis. Despite all these disadvantages, Galena has grown to be a rich and prosperous city, owing to the mineral resources of the surrounding country. It is situated some seven miles up the gorge of Fever River, in the Mississippi Bluffs, and the river is rendered navigable only from the back water caused by freshets and floods of the Mississippi. Were it deprived of these accidental advantages, Galena would be without its shipping list. The completion and opening of the projected railroads to Galena will do much for the mineral country.

THE LAKE MICHIGAN DISTRICT.—This region discloses a different topographical character altogether from any portion of the State. The approach from the Des Plaines or the Kankakee River, is over a flat prairie of from twelve to thirty miles broad, constituting the summit-level water-shed between the Mississippi and St. Lawrence Valley. The sur-

[illegible] of this table is only gotten rid of by evaporation, in the main. The soil is thin and sandy, and a clayey hard-pan lies under it, which prevents the water from sinking readily. The Des Plaines River banks are only some twelve or fifteen feet higher, topographically, than the Lake Michigan shore; and in the highest freshets, when the Des Plaines overflows its banks, a portion of its waters finds vent into an arm of the Chicago River, and so into Lake Michigan. The first and highest bed of the Illinois and Michigan Canal, some thirty miles in extent, from Chicago to Lockport, is supplied by water raised by pumps from the Chicago River, a lockage of some ten or twelve feet lift, and by means of a feeder taken from the Calumet River, which rises in Indiana and falls into Lake Michigan, in Illinois, some twenty miles south of Chicago.

The Lake shore is clothed with forest timber, except at two points, viz.:—at the mouths of the Chicago and Calumet Rivers. The immediate shore is a sandy beach, much traveled in early times before roads were opened. Back of this the sand is blown into hills, drifts, or dunes, of greater or less elevation, which increase in hight towards the southern bend of the Lake, where they are an hundred feet high or more, and several miles broad. Thus the shore is heaped up, and is higher than the land back of it, which always prevents any distant view of the Lake. The rivers creep through these sand hills, and disembogue with difficulty—their mouths being all deflected by bars, up the Lake, in some instances many miles, by the powerful north winds.

The Chicago River, since its harbor has been improved by dredging through the sand-bar at its mouth, and the erection of piers, presents a tolerably straight main trunk of about one mile in length, running nearly due east. The main trunk is formed by two branches, one from the north-west, and the other from the south-west, draining, as well as they can, the flat lands lying back from the Lake. The river and its branches are narrow, deep, and navigable, and without apparent current except in time of freshets. On the three sides of this tripod river, stands the flourishing city of Chicago, which, within the last twenty years, has advanced from a mere trading post to be the leading city of the Lakes, having a population at this time—March, 1854—of over 60,000 inhabitants.

Fort Dearborn stands at the mouth of the Chicago River, on the right bank, the highest ground in the city, elevated some twenty or thirty feet above the waters of the Lake. The exceeding flatness of the city plat renders drainage difficult; the surface-water fills all excavations made, except in the dry or autumnal season of the year, not only in the city, but in all the country round about, so that cellars and root-houses cannot be sunk in the ground, but, if had at all, must be constructed above ground: this, however, is not altogether peculiar to the Lake Michigan District. The surface-water is a great impediment to the sinking of cellars in most parts of the State—so much so, that the majority of families are deprived of this most necessary convenience in the economy of house-keeping, to the great detriment of the public health. The humidity of the atmosphere is, of course, very great throughout the State, but probably in no locality so great as at Chicago, or within the Lake Michigan District. We have known the snow to fall six inches deep along the Lake shore, while the ground remained bare six or eight miles west. A large amount of rain falls during the year; there is much dull cloudy weather during the winter and spring seasons. The spring is always retarded by cold, and frequently deluged with rains, and at best greatly interspersed with the chilling "Mackinaw breezes," that are often felt thirty miles westwardly in the interior, and are characterized by great humidity and coldness. After hoping, and expecting, and waiting in vain for genial summer, fires are often found necessary to comfort as late as the fourth of July. From mid-summer on till November, the climate of this region is paradisiacal.

THE MILITARY TRACT.—This attractive region lies in the forks of the Illinois and Mississippi Rivers, and belongs to

Middle Illinois, but presents some peculiarities in its topography worthy of a passing notice. The southern, narrow peninsula is an elevated spine of lime rock, along the Illinois, and a fine alluvial bottom along the Mississippi, six or eight miles broad. This elevated spine is of an acute triangular shape, and is covered with timber. Proceeding northwardly on this spine or elevated bluff, (not unfitly compared to the back bone and ribs of an immense animal,) the timber finally begins to grow thin, and at last the prairies appear. The prairies are, at first, very broken, having rather the appearance of bald hills than prairies, and this very rolling character of country prevails throughout all the southern portion of the Military Tract, up to the Quincy and Rushville regions. The prairies are rolling, dry, and not so wide as to deter settlers from locating anywhere upon them; hence the population is more evenly spread over the counties in the Military Tract than elsewhere. The surface-water is less annoying, and the drainage of the country better; and really this region should be the healthiest portion of Illinois. It probably is, and yet the causes which produce the *nursing sore mouth* exist here; for we have met with inveterate cases of it in different localities within the limits of the Military Tract, which will be referred to in our analysis of cases.

Meteoric Phenomena.—Sanatory surveys, the object of which is, to point out and elucidate both the general and local causes of the endemic diseases of a country, which are always obscure, carefully investigate the topography and meteoric phenomena. Following this method, we proceed to take note of the prominent peculiarities or characteristics of the meteoric phenomena in Illinois, or the constitution of the seasons governing production—the abundance or scarcity of the crops and fruits from year to year, and the concurrent state of the public hygiene. Without attempting to be minute or technical, our aim will be to develop the leading facts that bear upon the etiology of diseases, especially the *nursing sore mouth affection*, the subject of this essay.

We well remember the three most prominent evils that beset us in our early peregrinations over the prairies, and which constituted the chief drawback to our happiness, viz.: high winds, wet prairies, and poor diet. We lost about twenty pounds avoirdupois of ourself during the first spring and summer—the first half year of our pilgrimage there—when of adipose or muscular tissue we had never a superabundance, and can, therefore, speak experimentally and feelingly of meteoric influences. Let the reader imagine himself a practitioner of medicine there, and called, in the month of March, to see a patient twenty-five miles in the country (a not uncommon ride in those sparse settlements), his horse up to the fetlock in the mud every step when on land, and when in the water, in crossing sloughs and fording creeks, no matter how tall the steed, the rider's feet must be unstirruped and folded kimbo on his nag's sides, or his boots will fill with water; let him fancy Boreas let loose, and, unobstructed by hill or copse, bestowing his best endeavors on him the whole distance; let him consider the amount of disintegration of the system, blown off in the shape of insensible perspiration during the day's ride, and consequent call for repletion; and then let him seat himself at the humble family board, and partake of their best bill of fare, viz.:—fried bacon and hot biscuits, raised with lard, coffee, of course, to wash it down. The potatoes had all been frosted during the severe winter, the cabbages too; of turnips, the season of sowing was so dry they did not come up; of fruits they had none, for it was but their second year in the country, and it is rare that a settler raises any fruit short of a residence of ten years there. Now, the reader can almost make oath that, whatever may be the nature of the acute attack of his patient—phlegmasial, malarial, typhoid, or puerperal—*meteorology* and its influence over the state of the vegetable supplies—the absence of vegetables in the dietary—has special agency as causation of this case, or aggravation, at least. This is not a solitary picture, but a general illustration of the state of things we encountered in the winter and spring of 1835, the second year of our meteorological and medical observations at Springfield, Illinois, the present seat of government of that rapidly progressive State.

The Rains and Snows that annually fall in Illinois, equal if not exceed, the average fall in the same latitudes and elevations, anywhere in the United States. The whole State is a low country, and but little snow generally lies upon the ground, during winter. In the winter of the "deep snow," 1831–32, when all the eastern harbors nearly were closed by ice, tradition says: "the snow was about two feet deep throughout Middle Illinois, and that winter lingered in the lap of May." We have seen the snow some fifteen or eighteen inches deep, two or three times, in the course of nearly twenty years, and the lingering disposition of winters of this character, has sometimes interfered with planting and sowing in the spring, and abridged the crops of the succeeding summer and autumn; still it is undeniable that the want of snow during the winter, as a protection to the wheat, is generally everywhere felt in the State.

There is this about the rain, and which bears immensely on the vegetable productions, and, no doubt, the general health of the country; "it never rains, but it pours." From midsummer, on through the maturing of the latter harvest, the sowing of turnips, and of wheat, there is frequently great and prolonged drought, with excessive heat. We remember one season, 1838, in which there was no rain in Middle Illinois, not even a shower, from July to January; and the heat was excessive in the months of July, August, and September. The crops, particularly potatoes, turnips, cabbages, etc., were very short. The drought was severe and extensive: the rivers always disposed to dry up in summer, in Illinois, went totally dry that summer, and in some localities, the live stock strayed off in search of water, and famished in great numbers.

Recurring back to the year 1834, the same hot, dry character of season prevailed, following a frosty, blighting spring.

The crops and fruits were cut short throughout the State. The following winter was rigorous, and the spring and summer of 1835, excessively wet, so much so, as greatly to embarrass and abridge farming and gardening operations. About midsummer, excessive heat again set in, and this was the most sickly season ever known in the State. There were hardly well persons enough to take care of the sick. We paid that spring, twelve dollars a barrel for flour, in the heart of that wheat-growing country, and two dollars a peck, (eight dollars a bushel) for potatoes, to plant in the garden. Seasons marked by the characteristic here given, have always, according to our observation, been attended with great sickness and mortality; and we have been led to infer that there is an important connection between the state of the crops, or dietary of a country, and the state of the public health.

The reader should have personal observation of a thundergust, and experience one ten miles out on the prairies of Illinois, in order to fully appreciate the furious majesty of the scene, and understand the applicability of the adage "it never rains but it pours." The early spring not unfrequently, opens dry and beautiful, after the melting of the frosts and snows, and plowing, sowing, and planting, are opportunely accomplished; when, in the middle of May, or first of June, the thundergust-rains set in, and not unfrequently keep the country deluged till midsummer; drowning out the hopes of all the flat prairie farmers, and washing out the labors of those, on the more rolling farms. We have seen acres of young corn washed out of the furrows, and whole fields of it submerged, and doomed to a yellow sickly abortion. Seasons of this character, are incompatible with the growing of a crop of potatoes, the great staple succulent vegetable in all parts, and it proverbially happens, that one extreme follows another, and that the drought of the latter part of the season prevents the growing of turnips, and the maturing of garden roots. Indeed, the growing of garden vegetables, in general, is much neglected by the early settlers; culture with the plow in the cornfield, is the great and all absorbing business of the planting season; for, according to the crop of corn, so is the amount of the marketable staple, pork, from the annual returns of which, the hard working yeomen [illegible] pay for their dry goods, groceries, etc., etc.: so that we may say, there never was, during the period of our observations, a full supply of succulent table vegetables raised, consumed and put up for winter use; and in the cold, wet seasons, there was a most lamentable deficiency, and this scanty supply was often frosted, and still further abridged for the want of cellars and root-houses for their preservation.

An incident, not irrelevant, is here introduced, illustrative of the deluging summer rains that fall throughout this prairie country, and the waspish character of the creeks, that are often swollen by a single shower so as to be past fording. A little dried up rivulet, even—nothing, in fact, but a place *for a creek*—a gorge between the lime-stone bluffs, with, at most, but a stagnant pool now and then along the deep holes and turns, to mark its course, will verily assume a most formidable character, often in a few hours, so as to jeopardize, if not destroy, the life of whomsoever may attempt to ford its swollen tide. The locality or scene of the incident is as familiar to us as the road to the mill; we have often stepped the stream at the identical ford where the drowning occurred, without wetting the sole of our boot, and laid hold of the boughs of the water-birch the fair one clung to, that, like the boughs of a Pope's willow, reach down their arms as if from heaven, to rescue such loveliness from the grave, or to mourn over it when consigned to an early tomb.

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The torrents of rain continue to fall till after the summer solstice, and sometimes until the middle of July, when the flood-gates of the firmament are closed! heaven's artillery ceases, and the raining process is imperturbably suspended. We question whether one of Espy's mammoth fires, or Vaughan's heaven-piercing lightning-rods, or Cheop's or Popocataptl, even, would so galvanize the clouds as to induce further out-pourings.* But there is no occasion for more; the rivers and creeks are all out of their banks, and extend from bluff to bluff; every upland pond-hole, marsh, lake, etc., is filled; and all the sink-holes and hollows along the bottoms are brimmed, and stored with fishes and reptiles, doomed soon to flap and flounder in the mud, and then to pass into their ultimate elements under solar heat; the great body of the summit-level country is in an equivocal teraqueous condition, and the soil and subsoil saturated to the blue clay. Another play of meteoric phenomena now presents. The unobstructed sun is busy through Leo, Virgo, and Libra, n restoring back to the air this flood of waters; and under powerful insolation, high temperature, and rapid evaporation, and consequent elimination of electricity by day, and a reversed process, powerful upward radiation, dew-sopping, and cooling, by night; and this debilitating, extreme impression of the vital stimuli prolonged for weeks and months, everybody nearly falls sick. The full development of these evident causes of sickness is witnessed sometimes early in July, while an abundant and young vegetation is fresh and luxuriant, even before the mid-day of its perfection, and never a blight has touched it; but while in its rankness, superabundance, and noon-tide of life, it takes from the air the gases hurtful to man and animals, and returns oxygen or pure vital air, belying the hypothesis of malaria from vegetable decomposition, unless it be thrown back upon the mould of preceding years, the constituents of the soil which are now rather passing into new organic vegetable life again.

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* It appears from the most modern views of meteorologists, that water is contained in the air in solution, as salt is dissolved in water; that electricity is the chief agent by which it is suspended—the electricity being produced by the friction of the air against the earth's surface; that evaporation is effected at the expense of heat and electricity; and that the air, surcharged with vapor, being specifically lighter, rises above the lower stratum of the atmosphere, which becomes an insulating medium between the clouds and the earth. To produce rain a connection must be formed. Espy has proposed to effect this by fire; Vaughan by a rod of immense elevation; and by thus drawing off a charge of electricity from the higher strata, portions of the dissolved water must be precipitated in rain. This view explains the meteoric phenomena of the low flat regions under consideration, and why it is either very wet or very dry; and, also, the reason why mountainous regions are more uniformly rainy and misty. It has been even suggested by Prof. Vaughan, that the pyramids of Egypt were built in order to the production of rain during the dry season.

The Spring Frosts are sometimes severe, and occur late, blighting the fruits and crops extensively. Peaches, apricots, plums, and even apples, are rendered somewhat uncertain, owing to the severity and lateness of the spring frosts incident to the sudden changes of temperature that occur after the showers set in, of which we have spoken. A frost occurred in the spring of 1834, about the middle of May, when the growing crops—corn, peas, beans, etc.—were several inches high, that killed, outright, all the crops, fruits and tender vegetation, even the new growth of the trees, twigs, a foot long, and foliage full grown. The forests presented an autumnal gloom; the leaves fell, and were succeeded by a new budding process, and the shooting forth of fresh foliage. The blighting influence of this frost in the spring of 1834, and the withering drought of the summer immediately succeeding, cutting off and abbreviating all the fruits and succulent vegetables of the country that year, has always appeared to us to hold a direct relation to the extremely sickly season that followed the summer of 1835. Repeated coincidences of a like character have shown a relation—like cause and effect to exist between short crops of vegetables and fruits, and sickly seasons.

The Autumnal Frosts are generally postponed until the summer crops are matured, and, therefore, do but little injury. Occasionally the crops are abbreviated by an early autumnal frost, but oftener by drought at this season. The native fruits are few, but the crab-apple and wild-plum are hardy, and generally abundant, though they are not sufficiently appreciated by the early settlers before orcharding can be cultivated, and the products help to protect the public health. The gooseberry and black currant are also natives, and when transplanted to gardens, and cultivated, are great bearers, and the fruits exceedingly fine; but their cultivation is also neglected. There is no disposable force to be spared during the rail-mauling and prairie-breaking years of a settler's efforts for a wide farm, and consequently fruit culture and gardening are neglected, and the health of every family is thereby jeopardized.

The proposed limits of this essay will not allow us to discuss in full all points connected with the topography of this great, beautiful, rich, and wonderful State. Its geological formations, coal and other mineral deposits; its fauna, and the rich profusion of its native plants, must be passed over. All these are matters of interest to the lovers of natural science, but have little bearing on the subject of our inquiry, which is strictly medical.

PART SECOND.

CRITICAL ANALYSIS.

Art. VI.—*Traité des Fractures et des Luxations.* Par J. F. Malgaigne, Chirurgien de l'Hôpital Saint Louis, etc., etc. Avec un Atlas de 30 Planches, 2 vols. J. B. Bailliere. Paris: 1847–1855. . . pp. 1950. . .

[*A Treatise on Fractures and Dislocations.*—By J. F. Malgaigne, Surgeon of the Hospital St. Louis, etc., etc. With an Atlas of thirty Plates, etc., etc.]

[*Continued from Page* 278.]

The second volume of M. Malgaigne commences with some general remarks on the confusion existing in reference to the nomenclature applied to various dislocations, and concludes that, as yet, perfect precision in this respect has not been attained. The safest method would be to follow custom, were it not that many errors must thus be sanctioned.

"As for myself, I shall endeavor to employ such terms as are most clear, exact, and admit of being most easily remembered. And, although I care more for things than words, I shall aim so to describe different lesions, as to avoid misapprehension."

He recognizes three great divisions of dislocation: the traumatic, pathological, and congenital. Although the traumatic are more frequent than all the other varieties, still he asserts, that these luxations are very rare. Of one thousand five hundred and fifteen patients treated by Dupuytren, in 1828, there were but twelve luxations, and of three thousand nine hundred annually received from 1818 to 1820, in the Hôtel-Dieu, of Lyons, under the care of M. Janson, there were but twenty affected with dislocations. The relative proportion of these cases, however, as M. Malgaigne very properly observes, depends greatly on the situation of the hospital—for example, at the St.

Louis, where many cases of injury are admitted, of six hundred and nineteen patients under the care of our author, in 1849, there were twenty-four suffering from the accident under consideration. In visiting the British hospitals, we think it will be found, for the same reason, that more cases of dislocations are treated at the London Hospital, than at any other in that metropolis. In examining this subject, Dr. Norris found that, in ten years, for every nine hundred and fifty-nine fractures admitted into the Pennsylvania Hospital, there were ninety-four dislocations. Under the head of Etiology, we have some interesting observations on the influence of age, sex, seasons, the liability of different joints, and of different constitutions. Sir Astley Cooper maintained, that old persons are much less liable to dislocations than those of middle life, and that young persons are also very rarely the subjects of dislocations from violence. M. Malgaigne, is of the same opinion in reference to children, but declares that Sir Astley's doctrine is by no means true as regards the aged, and in proof adduces the following statistics of cases, collected at the Hôtel-Dieu and at the St. Louis—the last having been under his own observation.

Age.	Hôtel-Dieu.	St. Louis.
From 2 to 5 years.	1	"
" 5 " 10 "	4	3
" 10 " 15 "	8	5
" 15 " 20 "	29	7
" 20 " 30 "	72	21
" 30 " 50 "	182	42
" 50 " 65 "	154	29
" 65 " 70 "	42	4
" 70 " 75 "	19	3
" 75 " 90 "	18	"

From this it would appear that luxations are very rare in early infancy; that they gradually increase in frequency to the age of fifteen, and again, suddenly, to the age of fifty years. Then, instead of decreasing, as stated by Sir Astley Cooper, for the next fifteen years the relative proportion is greater than at any other period of life. Even after the age of sixty-five, the proportion is far beyond that of the adult. Sir Astley, as is well-known, attributed the rarity of dislocations in the aged, to the softened state of the extremities of their bones, which renders them more liable to fracture than to dislocation. This explanation, says M. Malgaigne, is as destitute of foundation as is the assertion based upon it. In the volume on Fractures, page 3, our author has shown that, after sixty years, the relative proportion of fractures diminishes instead of increases, and the facts already adduced prove that old age is less subject to fracture than to dislocation.

As to the influence of sex, we may state, that the female, in comparison with the male, is more liable to fracture than to dislocation, even during all periods of life. When preparing for our first visit to the hospitals of Europe, at the suggestion of the late J. Kearny Rodgers, we resolved to question the oldest and most experienced surgeons, in reference to the number of cases of dislocations of the femur, in the female, which had come under their observation. The inquiry, even when proposed to such men as Mr. Stanley, invariably required quite a retrospect before they could refer to a single case. Within the past six weeks, the writer has reduced a dislocated femur (traumatic), in a girl seven years of age. We know that Sir Astley Cooper is disposed to question the accuracy of the diagnosis in this instance, reported at this early age, but it should be remembered, that he has himself given the details of one which occurred at the same period of life. M. Malgaigne states, that of thirty-four cases of luxations of the femur at the Hôtel-Dieu, but eight were in the female, and of seventeen seen by himself, all but *one* were in the males. As to the extreme periods at which the accident has been observed, we may here state that Lisfranc reduced one in an infant of eighteen months, and Gauthier saw another in a female eighty-six years of age. The rarity of dislocation in the female, as well as in infants, is according to our author, a sufficient refutation of the doctrine of Sir Astley Cooper, that persons of lax fibres are those in which the predisposition to dislocation most strongly exists. Is not a more rational explanation to be found in the fact, that the subjects alluded to are far less exposed to the violence by which the accident is commonly produced.

Pathological Anatomy.—This is by no means on a level with that of fractures. Opportunities for dissection are rare, and experiments on animals are more difficult and less satisfactory. Our author examines the subject under the following heads:—1. The condition of the parts in a recent luxation. 2. The changes in old dislocations. 3. The mode of reparation after reduction. Our limits will permit us to notice only those points which bear on the difficulties in the reduction, as, without an accurate knowledge of these, our practice must be irrational and unsuccessful. In recent luxations the principal obstacles to reduction arise from the muscles, ligaments, and the bones—M. M. Vœlkers and Michel, have attached much importance to atmospheric pressure. In old dislocations, the most powerful obstacles are caused by new ligamentous or fibrous adhesions. In a recent luxation, according to our author, the muscles may resist: 1. By simple or physiological retraction. 2. By the force of tension. 3. By contraction. 4. By pathological retraction—the result of inflammation. Sir Astley Cooper speaks of the *tonic* contraction of the muscles, firmly maintaining a dislocated bone in its new position. Bichat applied the terms *contractility of tissue* to designate the slow, insensible shortening of muscular fibre to what is known to modern physiologists, as *tonic* contraction, and to which Boyer attributed an exaggerated influence, not only in producing but in preventing the reduction of dislocations. The *pathological retraction* of M. Malgaigne, the result, as it is, of inflammation, is at times a source of serious difficulty, and if rudely encountered, may give rise to extensive lacerations, suppuration, gangrene, and even tetanus.

"For this reason," says our author, "it has been the rule of practice, from the days of Hippocrates to the present, not to attempt reduction until the inflammation has been subdued by appropriate treatment."

Professor Gunn, of the University of Michigan, has published a paper in the *Peninsular Journal of Medicine*, for July, 1855, in which he opposes the views commonly entertained in reference to the influence of the muscles, in resisting the reduction of dislocations. The principle he seeks to establish is:—"that in luxations of the hip and shoulder, the untorn portion of the capsular ligaments, by binding down the head of the dislocated bone, prevents the ready return over the edge of the cavity, to its place in the socket; and that this return can be easily effected by putting the limb in such a position as will effectually approximate the two points of attachment of that portion of the ligament which remains untorn."

The untorn portion of the capsular ligament, in his opinion, constitutes, therefore, the chief, if not the only, opposition to our efforts at reduction. The same doctrine was maintained by Desault, but we believe the number of dissections yet made, is insufficient to establish its truth. Those made by Sir Astley Cooper, led him to remark that, "the capsular ligament is torn to a great extent," and both MM. Nelaton and Malgaigne are inclined to believe that the cases are rare in which the ligament offers the chief obstacle to reduction. In November, 1846, we witnessed the dissection of a dislocated femur, (upwards and backwards,) made at St. Bartholomew's Hospital, London, by Mr. Stanley, and the appearances presented corroborated the views of our author. In concluding his remarks upon this subject, M. Malgaigne gives us the following *resumé*:—

practice inculcated by our author:—"In the first place, attempt immediate reduction; should this fail, promote the union of the broken ends, and afterwards try again reduction. Should all our efforts prove unsuccessful, we must then try to restore to the limb its functions, by well-directed and persevering movements."

Passing over our author's general observations on pathological and congenital dislocations, to which, some sixty-seven pages are devoted, we come to the consideration of the special forms of dislocation. We do not pretend to follow strictly the order in which these are discussed. In the first place, we will notice our author's remarks on dislocations of the cervical vertebræ. Sir Astley Cooper, as is well-known, states that he never witnessed a case of the kind; the injuries in this region which came under his observation, "having all proved to be fractures with displacements." M. Malgaigne has collected three cases of luxation of the atlas from the occipital bone, which were observed by Lassus, Palletta, and M. Bouisson. From the details of these cases, however, it would seem that the displacement was not complete, although the accident in all, was at once fatal. Sir Charles Bell, saw two instances of sudden death from a separation of the atlas and axis; and M. Duméril reported another case to the Academy of Medicine, on the 6th of October, 1840. The difficulty in forming a correct diagnosis in these cases is very great. The position of the head is by no means pathognomonic, yet it is, of itself, sufficient to arouse the suspicion of the surgeon. If, after a careful examination, an unusual depression is felt between the atlas and the axis, with a projection posteriorly, or even along the spinous process of the axis; if the pain is confined to this situation, and the head can be no longer rotated; and finally, if the atlas can be felt, strongly projecting at the upper part of the pharynx, the probability becomes almost a certainty, and preparations should be at once made for reduction. True, but little can be expected from treatment; yet, the case reported by Mr. Benj. Phillips, in the *Medico-Chirurgical Transactions*, vol. xx., p. 78, shows that, even after fracture of the atlas and separation of the articulating surfaces of the occiput and the axis, life may continue for forty-seven weeks.

Luxation of the Radius.—Our readers will remember the interesting paper of Dr. Markoe, on luxation of the head of the radius backward, etc., etc., published in the May number of this Journal. Dr. M. considers this luxation physically impossible, without a fracture of the inner condyle of the humerus, and refers to the few reported cases that have fallen under his observation. M. Malgaigne has collected twelve cases, the details of which, he states, are generally so imperfect, that it is difficult to decide whether the dislocation was complete or incomplete. He has himself observed one case, in which he is positive there was no fracture. The accident was produced by a fall, which was immediately followed by a cracking noise at the elbow, severe pain, and considerable tumefaction. The forearm was strongly pronated and held in a semi-flexed position by the other hand. There was deformity at the elbow joint; the tumefaction concealing the projection of the humeral condyle, whilst, posteriorly, and a little externally, the head of the radius could be distinctly felt, rolling beneath the fingers, when the arm was placed either in pronation or supination, and its cup-like depression was readily detected. The forearm admitted of extensive movements; but pronation was easier than supination, and extension than flexion. These movements produced, moreover, a kind of crepitation; although there was, in his opinion, no fracture. He adds that, in all of the cases reported, there was no doubt of the displacement of the head of the radius, backward; but, what is remarkable, the other symptoms resembled those of incomplete luxation, or, rather, of the luxation forward. The position of the forearm, therefore, has no real value in forming a diagnosis, and the only sign entitled to confidence is the well-marked projection, either of the head of the radius, or the condyle of the humerus. Our author refers to the tendency of the parts, after reduction, to become again displaced, and, from the strong disposition to this, manifested by some of the cases, it is exceedingly probable that the luxation was complicated, as in those reported by Dr. Markoe, with fracture of the inner condyle. We may add that, in addition to the cases collected by our author, another has been referred to by Mr. Lawrence, of London, which was seen by himself.—(*Lectures on Surgery, London Medical Gazette, July*, 1830.

Luxation of the Thumb.—Our author awards to Mr. Hey, of Leeds, the credit of having first properly described this accident, and the difficulties connected with its reduction. He enters into the examination of the causes of these difficulties. They have been attributed to muscular action, and the shortness of the lever to which the extending force can be applied. As regards the first, it is well-known that it does not prevent the reduction of larger bones, and even syncope does not facilitate the operation. The second depends upon the means employed, and cannot apply to those cases in which traction is carried to such an extent as to excoriate the integuments, or, as in the case mentioned by Bromfield, in which the thumb was completely torn off by the surgeon's efforts at reduction. After noticing the various opinions in reference to the obstacles to be encountered, our author is unable to advance any which is perfectly satisfactory, although he is inclined, with Mr. Vidal, and Mr. Fergusson, to attribute it to the interlocking of the head of the metacarpal bone between the short muscles of the thumb. The different proceedings adopted in the reduction of this dislocation may be included under the following heads: extension, simple pressure, and pressure accompanied with flexion, forward and backward. Extension alone, M. Malgaigne regards the worst of all the methods. It has failed in the hands of Hey, Evans, Desault, Dupuytren, Boyer, Roux, I. Cloquet, M. Gensoul, M. Velpeau, and others. Simple pressure much more frequently succeeds, although this, too, has failed, even when tried by MM. Velpeau, Gerdy, and our author himself. The same observation applies to pressure united with flexion. And why, asks M. Malgaigne, have all of these methods failed? The true cause he fails to present to the reader.

If anything were needed to make the surgeon avoid the application of too much force in these cases, it might be found in the disastrous results reported by Bromfield, and, in another instance, related in the clinical lectures of Dupuytren, in which a patient, æt. 67, lost his life from the inflammation, suppuration, and mortification following too long and violent efforts at reduction. Exsection of the head of the bone, as practiced by Evans, he would restrict to those cases complicated with a rupture of the integuments. He barely alludes to the proposition of Sir Chas. Bell, to divide the lateral ligaments with a cataract knife, and remarks that, he once proposed to divide, at the same time with the ligaments, the muscles which formed the external margin of the button-hole opening which embraced the head of the bone. Time will not permit us to refer to all of the various methods proposed in the treatment of dislocations of the thumb. An excellent summary of them, is furnished by our author, and, in addition to the writers mentioned by him, we may allude to a paper in the *Revue Medico-Chirurgicale*, for April, 1855, written by M. Langenbeck, and communicated by M. Verhæghe, of Bruges. The method proposed by M. Langenbeck, after all, differs but little from that practiced by Roser, and which consisted in making dorsal flexion of the dislocated phalanx, and then depressing it upon the head of the metacarpal bone. This plan has been not unfrequently adopted by American surgeons. An excellent mode of applying the extending force is, by means of the clove-hitch, or sailor's knot. It has the advantage of not slipping, nor does it become tightened by the increase of the extension. It is far superior to the plan recommended and delineated in Sir Astley Cooper's Treatise on Fractures and Dislocations.

Luxation of the Fingers.—Sir Astley Cooper observes that dislocation of the phalanges of the fingers is "but rare," and that, when it does occur, it more frequently happens between the first and second, than between the second and third. He has given an illustration of a case in which the second phalanx was thrown forward towards the thecæ, and the first backwards. In November, 1846, we saw a patient at University College Hospital, London, who had suffered for three months from a similar dislocation. Mr. Liston succeeded in reducing it by making traction with a key-handle. French surgeons, Mr. Liston remarks, deny the possibility of this accident. M. Malgaigne states that he has seen two cases of dislocation of the digital phalanges; that M. Leger has communicated another to him, and that, in all, he has been able to collect, six others—of the nine cases, three were in the ring finger; three, the little; one, the middle; one, the index; and in one, both the middle and ring finger were luxated.

Dislocation of the Hip.—After a critical examination of the terms employed by writers, from Hippocrates to Sir Astley Cooper, to describe the different forms of dislocation to which the femur is liable, M. Malgaigne presents us with his classification. The luxation backward, with him, is the iliac and ischiatic; forwards, the ilio-pubic and the ischio-pubic; upwards, the supra-cotyloidean; downward, sub-cotyloidean and sub-perineal. Of the sub-perineal variety he has collected but three cases; the first reported by D. Amblard, in 1821, the others by Professors Parker and Pope, of our own country, in the March number of this Journal, for 1852. About one hundred pages are devoted to the consideration of dislocations of the femur, traumatic, pathological, and congenital, and we know not where so complete a summary of the present state of our knowledge on this subject, can be found.

Our time will permit us to dwell but briefly on one of the more important points here discussed, viz.: the treatment of dislocations of the femur. Sir Astley Cooper insisted that the pulleys are indispensable in their reduction, yet the late Mr. Morgan, of Guy's Hospital, for more than twenty years before his death, was accustomed to accomplish this without resorting to these "indispensable" agents, and he maintained that they are quite unnecessary. When called to a recent case, he placed his heel between the thighs and made extension downwards. In many instances, he derived advantage from flexing the affected limb, with the knee bent on the body, and, at the same time, making forcible flexible rotation. Mr. Birkett, the successor to the late Bransby B. Cooper, in the same institution, has published a communication in the London *Medical Times and Gazette*, for March, 1854, in which he states that he has succeeded, by Mr. Morgan's method, in reducing almost all forms of dislocation, and he asserts that the special rules laid down in books, as to the direction of the traction to be observed in each, have not been found of so much practical importance as they were supposed to be. Dr. Physick, as well as Dr. Nathan Smith, often succeeded in reducing dislocations, even of the femur, without the aid of pulleys, and it is recorded that Paulus Ægineta and Hippocrates met with similar success. Dr. John Watson has collected sufficient evidence upon this subject to show that this practice is by no means of modern origin (*N. Y. Medical Times*, June, 1853), and the same inference must be drawn from the pages of M. Malgaigne, yet there can be no doubt that the labors of Dr. Wm. W. Reid, of Rochester, N. Y., (*vid. Trans. Med. Soc., State of N. Y.*, 1852; or July number of this Journal,) have done more than those of any other surgeon, to establish the method of reducing dislocations of the femur without the aid of pulleys. Within a few weeks past, we have had occasion to avail ourselves of his *suggestions*, and in less than a minute we succeeded in reducing a femur which had been dislocated for nearly three weeks. We confess our inability to find the *analogue* of "Reid's method" in any of the various plans of treatment described by M. Malgaigne. We see by the journals that British surgeons have resorted to it with success, and we doubt not ere long it will be tried in France. When Roux made his famous voyage to London, in 1814, he claimed for French surgery the glory "d'avoir amené au plus haut degré, possible de simplicité les procédés de reduction" in dislocations; but sure we are that, now, "*sans trop d'orgeuil*," we may appropriate this glory to the surgery of our own country. But, as to the general "doctrine *des luxations*," by which, to use Roux's own definition (*Relation d'un Voyage*, &c., &c., p. 208), we are to understand the precise determination of the different luxations to which a joint is liable, the mechanism by which produced, the new relations formed by the parts displaced, and finally, the characteristic signs of each luxation, we have no hesitation in asserting that the great work of M. Malgaigne stands unrivaled.

We regret that the peculiar circumstances in which we have been placed, since we proposed to ourselves the task of analyzing this work, have rendered it impossible for us to do anything like justice to the subject. For years to come it must be *the* book of reference for every practical surgeon, as well as of the student desirous of obtaining an accurate knowledge of the "doctrine" of luxations. G. C. B.

ART. VII.—*Annual Report of the City Inspector of the City of New York for the year* 1854. New York, 1855, 8vo. pp. 248.

THIS voluminous document has gradually attained its present size from a thin serial ten years since. Although, as the City Inspector says, the statute and ordinance by which he is "directed to report, annually, to the Common Council the business of his office, do not require so thorough and varied an elaboration of its proceedings; yet those enactments hardly had in view the great benefit to be derived from the collection of complete statistics. They aimed simply to the record of such general matters as pertained to the identification of deceased parties, and not to the progress of scientific research, the advancement and success of which so much depend upon the faithful collection and publication of every item of information having a bearing upon useful knowledge." The vital statistics of so large a city as New York, can scarcely be too highly valued. It is not our intention to thoroughly review the report, at this time; but to merely attempt to call attention to such parts as will best show its value. Every *city* physician will be able to peruse it, and we suppose that those out of it could obtain a copy, by offering a return, in kind, of the statistics of his own county. For the benefit of our readers, who are unacquainted with the business of the department, we will attempt to give some general idea of its records, which comprise many particulars of the births, marriages, and deaths, in a city numbering, by a complicated census, at least 625,000, together with the sanitary survey and registration of the condition of every house and lot. The records of the births and marriages are not perfect, on account of the failure of, perhaps, one half of those who should do so, to report; they are, however, valuable, as they give us, mostly, the correct proportion of sexes, colors, ages, and conditions. But the necrological record is as nearly complete as it is possible to have it, from the fact that every corpse must be interred, and that no burial can be made, and no human cadaver be removed from the city, without a permit from the City Inspector; which is given only upon a proper certification of the causes of death. The value of these records is also enhanced from the knowledge of the age, sex, color, condition, occupation, nativity, term of residence, etc., of each, given by the returns; and from these latter items the long series of tables, or a magazine of figures, as it is fitly called, has been compiled.

The argument frequently urged against conclusions from our mortuary statistics, of the fact that a large number of the signers of certificates are unprincipled, or careless, and ignorant of pathology, is frivolous and will not invalidate any general conclusions; but only the minor deductions which might be made from the small numbers of some comparatively rare diseases: the greater part, however, are drawn from the numbers dying from all the diseases of particular systems or classes; thus, although phthisis may be called chronic bronchitis, or bronchitis, croup, yet all will be correctly included under the order respiratory; in other words, the mistakes made by those giving certificates of death affect mostly the particular genera, not the orders or classes of disease; and as those of certain orders have mostly the same causes, the inferences will hence be generally correct.

Again, according to the report, as 4,352 died during the year, in the hospitals, or institutions, all of which have capable physicians, and as the number of deaths from disease was 25,325, almost one-fifth are thus proved accurate; to which, if we annex the coroner's certificates of disease, amounting to a few hundreds, and the large number given by dispensary physicians, a well-qualified body, who treat over one-third of the cases of sickness of the city, we can then aver, that about one-half are treated by competent physicians connected with the various eleemosynary and reformatory institutions; and in addition, we may form a reasonable estimate that four-fifths of all the other practitioners of medicine report correctly; thus the correct returns may be considered to embrace nine-tenths of the whole number, and the general grouping of the remaining tenth will not lead us far astray. Besides which, the known constant relation of our prevalent diseases to their returns, here and elsewhere, of death, as well as the general uniformity observed, even in reports of unscientific names, such as atrophy, debility, or marasmus, help to show that the greater part of the returns of death are made understandingly.

According to the report before us, the total number of deaths for 1854 was 28,568, of which 2,197 were either still-born, or died from malformation, or premature birth; and 1,043 from other causes than diseases, such as injuries, suicides, etc. The total number of males was 15,265, females 13,303, adults 10,682, children 17,886, of the African race 701.

The display of the different particulars of the above, as to diseases, ages, sexes, nativities, occupations, conditions, places of death, etc., occupies one hundred and eighty closely-printed octavo pages of figures, in addition to which the tables of births, marriages, and meteorology, for the year, embrace thirty-two more. The most interesting tables in the report are, 1st, those showing the nativities of all the deceased; 2d, those of the mortality in each public institution in each month of the year, showing the numbers, sexes, ages, nativities, color, and reported diseases; 3d, those of the external causes of death, giving the month of occurrence, and all the various items mentioned above; 4th, statements of the monthly mortality, showing, in detail, the various causes, sexes, ages, nativities, and colors. Thus, in the month of March, the most fatal to phthisis, 297 deaths from it occurred, of which 165 were males, 132 females, 102 foreign males, 81 females; 6 colored males, 8 females, 57 native males, 42 females; and it also shows, on the same pages, how many were under 1 year of age, between 1 and 2, 2 and 5, 5 and 10, 10 and 15, and so on; 6th, annual recapitulation by classes and orders, the first relating to the causes of disease, and the second to functional invasion, exhibiting, also, under the head of each genus of disease, the numbers, sexes, nativities, colors, public institutions, adults, and children, with a summary representing the totals in the various classes and orders, both distinct and combined; 7th, ward mortality of the city, comparison of which, with the condition of the locality, will be found instructive; 8th, the diseases, occupations, and nativities of the male adults who died in 1854. (NOTE.—We would suggest, for another year, the addition of a table, having the same subject as the 6th, mentioned above; but showing the number of deaths in each class and order, in each month.)

The number dying in 1854 was nearly 26 per cent. more than in 1853; a large increase owing to the prevalence of epidemic cholera and its kindred diseases, which existed four or five months in several parts of the city. The first case, in May, was reported by a physician of the New York Dispensary; it occurred in a filthy locality in Cherry-street, and the second by another of the Eastern; this case was in a poor tenant house in Division-street. In comparing the reports of 1854, and of the year of the preceding terrible epidemic, 1849, we find that cholera had nearly the same proclivities and history in both as regards the localities in which it prevailed, and the class of its victims; but about 29 per cent. of its deaths being native in '49, and 23 per cent in '54. To quote from the report of '49, "the inhabitants of those sections where the disease mostly prevailed were among the most miserably poor and destitute, and we know that its victims were the indigent, who previously existed in a state of semi-starvation, rags, and want;" in the language of Shakspeare, those

> "Whose houseless heads and unfed sides
> Loop'd and window'd raggedness, defend
> But poorly 'gainst seasons such as these."

In view of the above, it is gratifying to know that true benevolence could mostly prevent the ravages of this disease.

The proportion of deaths to population in 1840 was about two and a half per cent.; in 1845, two and two thirds; in 1849, four and one third; and in 1854, four and a half per cent., showing a steady increase and a larger ratio of mortality than most other cities: both are well accounted for, by the prevalence of cholera, and the greater influx of immigration to this port. The total number from Europe, seeking new homes in the United States, by way of this city, in the six years ending with 1846, was 337,780; but the most astonishing increase, and one unparalleled in the annals of any country, began in 1847, since which time, eight years, the immigration has overrun two millions.

The excess of male and infant mortality is shown, by a table, to have been regular for many years; that subjoined is a summary of it.

Excess of mortality of	1849	1850	1853	1854	last 8 y'rs
male over female	1157	1338	1758	1962	6215
" " adult " " do.	117	317	822	810	2066
" " children " " do.	1040	1021	936	1152	4149
" " " adults.	1915	4156	6454	7204	19729

This table also shows, that in the seasons of a severe epidemic, like cholera in '49 and '54, the disproportion of deaths between the sexes, and adults and children, is reduced; and we may, also, infer from it, that our climate, at other times, is peculiarly unfavorable to infant life.

The Report says that the "greater exposure of male adults is usually assigned as a reason for their excess of deaths; but that of male children has not yet received a solution that is deemed satisfactory." It might be added, however, that it can be proved that the greater number of males born of the human race, as well as their greater exposure to accidents; and the causes of disease, deducting the still-born, of which there are more males than females, on account of their superior size, fully accounts for this excess; thus, for example, the proportionate excess of male children, born in 1853 and '54, was over eight per cent., and the same proportion of drowned male children was about ninety per cent.

The excess of deaths of male children, from external causes, was 400 (see table); the excess of deaths of male children from disease alone was 752, and, according to the ratio of excess of male births, the natural excess of male deaths from the same causes of disease should have been 592. This argument is conclusive; indeed, it seems to prove too much, and we may be compelled to admit that the general causes of disease affect female children more severely, than the other sex.

Continuing the same train of reasoning, we find that the number of deaths of boys, from diseases produced more by out-door than in-door exposure to their causes, such as inflammations, etc., was 4,100; girls from the same causes, 3,380, boys' excess 720; same etc. from causes operating more in-door, such as fevers, etc., boys 648; girls 740; girls' excess here 90; excess of boys' deaths from all these causes 630. 6,526 children died from other causes of disease, supposed to act as much within as without dwellings; the excess of male deaths amongst these, at the ratio of male births, should be 250, whereas, it was but 126.

Pertussis seems to have been more fatal to girls than boys, of these 150 died, and of those 189. Some other causes, also, departing from the general rule, seem to aim the most fatal shafts at one sex in the morning of life, and during and past its meridian, at the other. See table.

	Boys.	Girls.	Men.	Women.
Gastritis	19	14	24	45
Enteritis	112	82	73	98
Marasmus	871	754	41	42
Convulsions . . .	1137	993	23	30

And one large order, the digestive in the class of sporadic diseases, shows the same anomaly.

Boys.	Girls.	Men.	Women.
1243	1089	432	468

The most fatally visited months of the past year were the same as in the seven, and probably most previous years, viz.: July and August; the excessive heat of those months will always account for it, however. September was the next most fatal in 1852, '53 and '54. Comparison of the weather and mortality, for the previous nine years, shows that when September was unusually cool, December was the third month in fatality, and when of a mean high temperature, it was then the third, and December the fourth in order.

The healthiest months, as we gather from reports of eight years, both by comparison of the mortality and of the meteorological registers, were the vernal and autumnal, viz.: the latter half of April, May, earlier half of June, latter half of September, and the whole of October, or, in other words, the latter part of our so-called spring months, and the middle of the autumn, are the seasons of the year when there are the fewest diseases caused by extremes of heat or cold, or of dryness or moisture, either in or out of doors; the most fatal months are July, August, and September, the extreme heat, and the excessive moisture in basements, and ill-ventilated apartments, then, always act as direct causes of disease. The winter months, November, December, January

February, and March, are the next as regards fatality, owing to the extreme cold out of doors, and the dryness in doors. The table appended is an approximation towards showing the monthly average of the three seasons mentioned above; it is proper to note that the mortality of November is usually disproportionately small, because of the previous hot months having decimated the ranks of the infant and debilitated population. Summer season, average per month (with cholera deducted) 2084, or about ten and one-fourth per cent.; Winter 1552, or seven and three-fourths per cent.; Vernal or Autumnal 1486, or seven and three-eights per cent.; the mean monthly mortality for nine years has been 1677.

We are informed, page 207, "that in an aggregate mortality, during the past eight years of 167,353, that of the children exceeds the adults 32,413, or about forty-eight per cent. The annual average of adults is 8,434; of children 12,485." (NOTE.—It is proper to state that twenty is the dividing line between children and adults.) The disproportion between infant and adult mortality has been increasing for several years, and is well calculated to excite the alarm of some; can we refer such a hecatomb of human offspring to natural causes! Shall we dare to say how much, want, crime, or malpractice are chargeable with. One important element must always be considered in attempting to account for this increase, viz.: the flood of immigration for many years, which has left its worst detritus to refill our filthiest localities with a prolific population, more ignorant and vicious than their predecessors; at the same time a large portion of our most healthy children have been removed to the adjacent cities and counties. It is well-known that with the light of advancing medical science, many more children of the classes who live neatly and comfortably, grow up to view the sun of puberty. This excess of infant mortality is not as great in the fifteenth, and other wards occupied by the wealthier classes of society. The offspring of those in this country but two or three years, can hardly be considered acclimated, and we know that more than two thirds of the infant names are either of the languages of Continental Europe or of Ireland.

By a review of the reports for the past eight years, we are enabled to give the per centage of deaths to ages. Under one year, thirty-three per cent.; from one to two years, thirteen per cent.; from two to five, ten per cent.; five to ten, four per cent.; ten to fifteen, one and a half per cent.; fifteen to twenty, two and a half per cent.; children under twenty, sixty-four per cent.; from twenty to thirty, ten per cent.; thirty to forty, nine and a half per cent.; forty to fifty, six and a half per cent.; fifty to sixty, four and one-fourth per cent.; sixty to seventy, three per cent.; seventy and upward, one and three-fourths per cent.

We shall merely glance at the remaining tables in order to call attention to their most interesting features. The tenth shows the particulars of the diseases of 1854, arranged scientifically into classes, orders, and genera, as in natural history; the two classes are, 1st, zymotic; 2nd, sporadic; and the different genera of diseases are assigned to the various orders in each class, according to functional affection; thus, pleurisy may be found in class two, order five, (respiratory.) Of the first class, which includes diseases, mostly contagious and endemic, or epidemic, there were 10,100 deaths, about thirty-five and three-eighths per cent.; in the previous year of cholera (1849) about forty-four and one-fourth per cent.; in the previous year of typhus (1847) about thirty per cent; in the healthy years 1848, '50, '51, '52, and '53, only twenty-five and a half per cent.

Therefore, the public health may be considered the best, when and where the zymotic diseases prevail the least.

The meteorological register, which has been embodied in this report for eight years, contains, this year, a new feature, the hygrometrical element. The table showing the diseases, etc., in each public institution, is very valuable; amongst other desiderata, it acquaints us, at a glance, with the knowledge of the class of patients treated in each.

The feature of the report, destined to be the most valuable, in our opinion, is the table of diseases and occupations, which we may hereafter review, when the official census of the trades, etc., can be obtained.

We trust that enough has been said to induce the profession to study the report; the few grammatical or typographical errors will not mar any deductions; and we conclude with the hope that all physicians will hereafter, for their own good, for the perfecting of the statistics of this department of city affairs, in which we all should take pride, and for the benefit of medical science, unite in reporting all the births with punctuality, as well as every other item sought for in publications of this kind.

J. P. L.

BIBLIOGRAPHICAL NOTICES.

ART. VIII.—*History of the American Medical Association, from its Organization, up to January*, 1855. By N. S. DAVIS, M.D., Professor of Principles and Practice of Medicine and Clinical Medicine, in Rush Medical College, etc., etc. To which is appended Biographical Notices, with Portraits of the Presidents of the Association, and of the Author. Edited by S. W. BUTLER, M.D. Philadelphia: Lippencott, Grambo & Co., 1855, 8vo., pp. 191.

SELDOM has it been our pleasure to examine an American publication so well adapted for the purpose of a "Medical Annual" as the one whose title heads this notice. The intrinsic merit of the subject matter, and the general truthfulness of the compilation, will, of a certainty, attract, towards the publication, a goodly number of readers. On the bearings of the special principles, as well as means of *medical reform* therein advocated, there is, of necessity, a wide difference of opinion in the professional mind. Any attempt to adjust this difference, when presented in the light of calm inquiry, should command the attention of every one who claims respect for medical improvement.

In the perusal of this interesting volume, several blemishes of orthography and of historical facts have struck us as of doubtful accuracy. That recorded on p. 20, in the following language, may be cited as one: "The first movement, of which we have any record, which contemplated a convention of delegates, not only from all the medical colleges, but, also, from the regularly organized medical societies throughout the whole county, was made in the Medical Society of the State of New York, at its annual session, in February, 1839." As a matter of history, the following fact is on record: The official report of the *Proceedings of the New Hampshire Medical Society*, at its forty-seventh anniversary meeting, held in Concord, N. H., on the 5th and 6th of June, 1838, is published in the *Boston Medical and Surgical Journal* (for Aug. 15th, 1838), vol. 19, p. 30. Among other matters, that report states: "That the subject of a National Medical Convention was taken up, and, after some discussion, was referred to a select committee. The committee reported favorably, and, thereupon, the Society voted to recommend an Annual National Convention, to consist of delegates from the various medical schools and societies in the Union; that the first convention be proposed to be holden A.D. 1840, and that the Secretary send a notice of this vote to the *Boston Medical* *and Surgical Journal*, and to the *American Journal of Medical Sciences.*"

The typographical beauty of the work, and the artistic finish of the illustrations, enhances greatly its attractions, and we hesitate not to say that our impressions will not be realized if the volume before us does not receive, at the hands of the profession, an amount of patronage sufficient to compensate authors and publishers for the labor bestowed upon its production.

ART. IX.—*The Pathology and Treatment of Leucorrhœa.* By W. TYLER SMITH, M.D., Lecturer on Midwifery, etc. Philadelphia: Blanchard & Lea, 1855, pp. 199.

A Practical Treatise on the Diseases Peculiar to Women, Illustrated by Cases derived from Hospital and Private Practice. By SAMUEL ASHWELL, M.D., Obstetric Physician to Guy's Hospital, etc. Third American, from the third and Revised London Edition. Philadelphia: Blanchard & Lea, 1855, pp. 528.

THE outline of Dr. Smith's work appeared in the *Medico-Chirurgical Transactions* (vol. xxxv). The novelty and apparent accuracy of the investigations, and the important bearing which they had upon the knowledge and treatment of leucorrhœal diseases, attracted very great attention. In the present volume we have these investigations reproduced and greatly extended, with deductions of great practical interest. The following heads of chapters will give a general idea of the subjects discussed :—Minute Anatomy of the Vagina, Os, and Cervix Uteri; Glandular Structures of Canal and Cervix Uteri; Secretions of Vagina, Os, and Cervix and Cervical Canal of Uterus in Health; Leucorrhœa in its different forms, its Sequelæ, its relations to Secondary Syphilis, to Gonorrhœa, to Disordered Menstruation, to Sterility and Abortion, its Constitutional and Local Causes and Treatment. As this interesting monograph is now placed within the reach of every American practitioner, we need not allude to it further than recommend it to their notice, as one of the most important and original medical publications that has recently appeared.

The work of Dr. Ashwell is a new and revised edition of his standard work on the diseases of females. It has always been a popular work with the profession of this country, and the value of the present edition has been greatly enhanced by the careful revision of its author.

ART. X.—*The Diseases of the Heart and Aorta.* By WILLIAM STOKES, Regius Professor of Physic, in the University of Dublin, etc. Philadelphia: Lindsay & Blakiston, 1855, pp. 710.

THIS volume, containing the experience, investigations, and deductions of one of the most eminent practitioners of the age, is now brought, by republication, within the reach of the American physician. No work has met with more general and deserved approbation at home and abroad than this elaborate treatise. The profession naturally looked to Dr. Stokes for the most complete work on this subject, and we venture to say that few are disappointed. We most cordially recommend this volume to the practitioner, as one which he will find indispensable to a correct understanding of the diseases of the heart.

ART. XI.—*The Mineral and Thermal Springs of the United States and Canada.* By JOHN BELL, M.D., Author of "Baths and Mineral Waters," etc., etc. Philadelphia: Parry and McMillan, 1855, 12mo, pp. 394.

To the valetudinarian, and likewise to the traveler in the pursuit of pleasure, this little volume will prove both useful and instructive. It fills a hiatus long since felt to exist in the literature of the day. The work contains notices, more or less complete, of one hundred and thirty springs and groups of springs in the United States. We are pleased to see that, in a professional point of view, it may be regarded as an earnest of the author's intentions, or as an installment of his larger work, in which the scientific history of springs will be fully set forth.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

SURGERY.

On Circular Cauterization of the Base of Hemorrhoidal Tumors complicated with Prolapse of the Mucous Membrane of the Rectum. By Dr. ALPHONSE AMUSSAT, Jun.

[*Concluded from Page* 288.]

IN order to give a still more complete and exact idea of the affection to which I have endeavored to call the attention of the profession, I have added the annexed drawing, taken from nature, of hemorrhoidal tumors, with prolapse of the mucous membrane of the rectum, on which I shall shortly operate by the process I have described. The patient is in the habit of supporting these tumors with a spring bandage, furnished with a ball of gum elastic. The constant pressure of the ball upon the anus has produced a dilatation of the sphincter, which allows the tumors to come down when they are not supported.*

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* We have, however, seen many cases of hemorrhoidal tumors, and of prolapse of the mucous membrane of the rectum, in which the greatest benefit has been derived from the support given by an anal truss, manufactured by Mr. Duff, of Molesworth-street, in this city. This instrument consists of a steel spring, well padded and covered with leather, passing round the hips, and furnished in the part which rests on the sacrum with a little cushion. To its centre posteriorly is screwed a steel plate, perforated with three or four holes over one another for the admission of the screw; attached to this plate, by a joint admitting of lateral flexion, is a rod of steel, also covered with leather, descending vertically, and terminating in a rounded cone of ebony, and so curved that the latter shall rest against the anus. The length to which this rod descends can be increased or diminished by screwing the plate of steel, above mentioned, at one or other of the holes, to the horizontal spring. As an illustration of the effect of this instrument, we may mention the case of a medical man, then aged 38, who had for five or six years suffered from a gradually increasing prolapse of the mucous membrane of the rectum which had in the commencement of 1851 attained such a hight that he was unable to walk more than a quarter of a mile without the membrane protruding and becoming painfully strangulated. This was attended with a copious discharge of mucus, which rendered his state uncomfortable in the extreme. Almost every action of the bowels was accompanied by copious hemorrhage. A loss of both red, and what Sir Henry Marsh has so well termed white, blood was thus taking place, which must soon have undermined his health. An eminent surgeon gave his opinion that operation was indispensable. A truss was, however, procured, and, having been properly adjusted, was worn with the effect of wholly preventing the occurrence of the prolapse. As a consequence, the discharge of mucus and the hemorrhages have altogether ceased, and all annoyance has been entirely removed. The tendency

I might easily have brought forward a greater number of facts, but those I have recounted will suffice, I think, to prove the simplicity and the safety of the operation I have described. I may add, that MM. Hippolyte Larrey, Martin (Saint Ange), of Paris; Dr. Mascarel, of

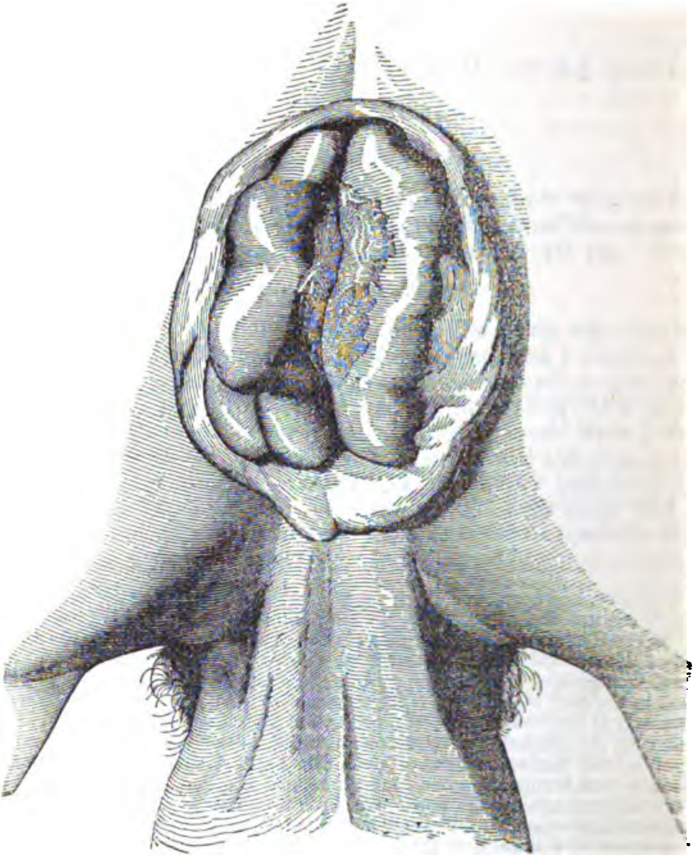

Fig. 8.

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of the use of the instrument is, moreover, by preventing the descent of the parts, to promote their contraction, and thus, if the bowels can be duly regulated without the irritating effects of medicine, to lead to a real cure. It is better to use the instrument only at such times as the patient is likely to be actively engaged. Due attention should, of course, at the same time, be paid to the avoidance of much standing, sitting on hard seats, straining at stool, or lengthened attempts at defecation. We have never seen the dilatation of the sphincter above alluded to produced by the use of this instrument, and we think it will be found that there are few cases of hemorrhoidal tumors, or of prolapse of the rectum, in which the necessity for operation may not be indefinitely postponed by it, and where, under favorable circumstances, even a cure may not eventually be reasonably looked for.—Trans.]

Châtellerault; MM. Maher, J. Roux, Laurencin, Professors in the Schools of the Imperial Marine, have kindly communicated cases of patients successfully operated on according to my plan. Lastly, MM. Barthélemy and Jobert,* who formerly gave an exclusive preference to the actual cautery, have now abandoned it, and employ, instead, the caustic potash with lime. As the details I have given in describing my operation appear to me sufficient to enable the reader fully to understand its several stages, and with ease to put them in practice, I shall not return to that part of my subject; but I think it useful to dwell for a little on its sequelæ, and the consequences which may result from it, for the rule of conduct I have adopted is the result of an experience based on the numerous facts I have observed during more than ten years.

The two or three minutes which I judge necessary for the cauterization having elapsed, the forceps is removed, care being taken that the caustic it contains shall not touch the neighboring parts, and the injection of cold water, which has not been interrupted during the operation, is continued. The jets of liquid should be directed chiefly to the linear depressions formed by the instrument, in which the caustic is situated, in order to remove particles which may not have chemically combined with the tissues. It is at this time especially that the patient feels the cauterization, which is no longer masked by the pressure of the forceps, and the cold fluid pouring on the tissues has, in addition to the effect just mentioned, that of acting as a local anæsthetic. When the parts have been washed sufficiently to have removed all the caustic, the tumors are carefully smeared with olive oil, and returned into the rectum. The oil both serves to facilitate the reduction, and, to a certain degree, protects the tissues by combining chemically with the alkalies, should any still remain.

Small quantities of cold water are also thrown into the rectum, and allay the pain, and afterwards the patient is placed in a cold sitz-bath, or, better, in a full-sized bath, at an agreeable temperature, which will, of course, vary according to the time of the year. In this he generally remains about an hour, being guided, in this respect, by his own sensations.

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* M. Jobert de Lamballe has recently published a new mode of cauterizing hemorrhoidal tumors *en masse* by means of caustic potash with lime. This surgeon seizes the tumors with a double arch of silver, which forms a sort of capsule, and covers them with Vienna paste, which he leaves applied for some minutes. The only patient on whom this operation has been performed had hemorrhoids of ordinary size, and two successive applications of the paste were necessary to destroy them. This mode of operation cannot be compared with the circular cauterization of the base of the hemorrhoids I have described. By my proceeding, in fact, the caustic is applied on a surface of but very limited extent, and the pressure of the forceps, combined with the continual irrigation with cold water, so moderates the pain of the operation that it is only exceptionally I have recourse to anæsthetic agents. Moreover, the pain which follows the operation is much less than in M. Jobert's proceeding, the cauterized surface being less extensive. His plan can only be compared with the mode I formerly pursued with a stick of Filhos' caustic. The latter proceeding possesses the advantage of not requiring a special instrument, and besides, the solid caustic acting more quickly than the paste, the operation lasts a shorter time, and I have never been obliged to repeat the application.

Generally speaking, on coming out of the bath, the pain, which has gradually diminished, is very slight; occasionally, however, in very nervous persons, or when the caustic has not been completely removed from the tissues, it is still severe. In this case we advise the patients to return to bed, and to place themselves in a position similar to that they observed during the operation, while a continued douche of water, which in winter should be tepid, in summer cold, is directed against the anal region. I have known some to find it more convenient to substitute for the douche, continued applications of lint dipped in cold, sometimes even iced water, and very frequently renewed. This latter means, though undoubtedly efficacious, should be employed with care, so as to avoid the reaction which is apt to set in when it is suspended or left off. Other patients remain all day in the sitz-bath, the temperature being kept up by the addition, from time to time, of warm water. I once attended, with my father and Dr. Pouget, a person who, after the cauterization of two tumors, remained in a sitz-bath almost constantly for a week; he said he was very well in it, and not the slightest bad effect resulted from this protracted use of it.

Most frequently two or three sitz-baths during the day, small continued douches, with poultices on the anal region, in the intervals, constitute the local treatment.

This plan should be persevered in until the wound is almost completely cicatrized, especially if the least sign of inflammation should be observed.

The only nourishment I allow is strong beef tea, and I recommend the patient to keep his bed for two reasons: first, because, by so doing, he bears the restricted diet better; and secondly, because the bowels are then less liable to act. Those who will not submit to this plan are obliged at once to take a more substantial diet, the result of which is stools, which are more painful in proportion as they occur nearer the time of the separation of the eschar.

Frequently a dysuria comes on, which lasts some hours, and subsides spontaneously, for I do not remember having had recourse to catheterism in a single instance. There is generally swelling, sometimes partial, sometimes general, of the areolar tissue about the anus. The patients complain of it a little, and generally think it is the hemorrhoids which have come down. I employ only the local means I have mentioned, and if the patients are very irritable, I have the poultices sprinkled with a little oil and laudanum. I sometimes give on the first night a composing draught with syrup of poppies. The state of the patients is generally so satisfactory on the following days, that they complain only of the diet and rest which are imposed upon them.

At the end of three, four, six, eight, or twelve days, portions of sloughs will be seen on the poultices, indicating that the mortified tumors are thrown off, of which the characteristic odor they diffuse likewise gives notice. The broth diet is continued as long as the patient does not complain too much of it, and in this way the work of elimination and reparation goes on very well, as there is nothing to interfere with it. I endeavor to postpone the first motion as long as possible, without, however, annoying the patient too much. When he feels a repeated desire to go to stool, which generally occurs at the end of six or eight days, I direct two or three ounces of lard melted in a water-bath, or a lavement of decoction of marsh-mallow, to be thrown into the rectum. The introduction of the tube should be managed with the greatest care, so as not to irritate or injure the wound. This duty should be intrusted to an assistant or an intelligent nurse.

The first stool is always rather painful, and the patient passes a few drops of blood; in two of my patients two or three ounces were lost without any bad effect except some increase of weakness, which I met by improving the diet. If the exclusive use of beef tea does not become too repugnant to the patient, which generally takes place, I induce him to continue it for some days, being guided by the time at which the eschars fall off and the probable state of the suppurating surface, the extremity of which can generally be seen at the anal orifice. It is unnecessary to observe, that I discontinue the baths as soon as the pain about the anus has ceased, as they would, along with the restricted diet, lower the patient too much. My object in continuing the exclusive use of the broth is to postpone the second motion, and to render it as small as possible. If, however, this diet does not sufficiently support the strength, or if disgust comes on, I substitute fresh eggs, gravy, and a little bread or pastry, gradually increasing their quantity. The second stool usually takes place from the twelfth to the fifteenth day, and ought to be preceded by the precautions I have detailed in reference to the first. The patient now begins to resume his ordinary mode of life; a great many go out, and some return to their occupations, taking care, however, to use an occasional sitz-bath, to foment the anus with tepid water several times a day, and particularly after having been at stool.

Such are the phenomena I have observed, and the measures I advise, after the circular cauterization of the base of hemorrhoidal tumors, whether simple, or complicated with prolapse of the neighboring rectal mucous membrane; and from what I have stated, it will easily be inferred that not only have I never lost a patient in consequence of the operation, but I have never had reason to be uneasy about my patients. I may add, that in no case have I observed the slightest symptom of pyemia to arise.

It would, perhaps, now be well to compare this new mode of treatment with those in ordinary use—the ligature and excision: but to draw this parallel would lead me beyond the limits of the present essay; it may suffice to remark, that I have never observed the nervous or phlebitic attacks to result from the new plan which have been attributed to the ligature, nor have I ever witnessed the hæmorrhages and purulent absorptions to which excision occasionally gives rise. In a future essay I shall examine, comparatively, the other modes of cauterization employed in the treatment of hæmorrhoidal affections.

It will, no doubt, have been remarked, that the five cases I have quoted are those of patients advanced in life; the remaining facts which have come under my observation confirm the opinion generally received in reference to this affection, namely, that it is more common in those who have passed forty years than in younger persons. It may be fairly asked if it is advisable to cauterize hæmorrhoidal tumors in old people, and especially when, being of long standing, they have become habitual and constitutional. As I have already said, I never take away all the tumors, confining the operation to those which give most annoyance; and although it has been objected that, in acting thus, we do not completely remove the affection, and that the tumors which are left may subsequently be developed and oblige the patient to undergo the operation anew, still, as this reproduction has hitherto been very rare, and as my plan has always been attended with fortunate results, I think it right to persevere in the same line of conduct. In a word, I am of opinion that we ought only to remove the tumors which are really prejudicial to health.

Among the advantages which result from the operation I shall point out, first, the cessation of that constant and great irritation caused by the protrusion and perpetual friction of the tumors against one another. This friction quickly removes the epithelium from the surfaces which are in contact; the patients feel an incessant smarting, which enervates them; a weakening, muco-purulent discharge is set up at a period of life when losses suffered by the system are repaired but slowly and with difficulty. Moreover, the sufferers are debarred from the little exercise their lower limbs would still allow them, by the fear of its producing an aggravation of their state. It is rarely, too, that the phenomena of digestion are not more or less disturbed; the advantages to be derived from terminating such a state of things will be at once apparent.

Double care should, however, be taken after the operation to guard against metastatic engorgement of the organs of respiration or of the liver; of such the physician should be particularly watchful, especially at first. I may add, that spring should, if possible, be chosen for the performance of these operations, so as to have the fine season for the period of transition.

It was my original intention to have closed my essay here, having, I think, sufficiently demonstrated the proposition I had advanced; but on reviewing the various cases of voluminous and complicated hemorrhoidal tumors I had observed, and reflecting on the comparisons which might be established between the affection I have been speaking of, and prolapse of the mucous membrane of the rectum, whether simple or complicated with hemorrhoidal tumors, that is to say, on the cases in which the complication becomes, by its development, the principal affection, as well as on the difficulties which sometimes exist in clearly diagnosing between these two pathological states; I asked myself if an operation which succeeds so completely in one case might not be applicable to the other The study of the etiology and ordinary progress of prolapse of the mucous membrane of the rectum shows that, most frequently commencing as a complication of the hæmorrhoidal affection, it may at length become the prominent ailment, in consequence of its development and of the derangements it produces; and it is often true that, while the vascular element little exceeds its ordinary limits, the prolapse alone attracts the entire attention of the surgeon.

Is not, in both cases, cauterization with a porte-caustique forceps applicable to the mucous tumor protruding from the anus, and may it not be regarded as the logical corollary of the treatment we employ in the cure of hæmorrhoids?

Ligature, excision, and cauterization, have been already employed in the treatment of prolapse of the mucous membrane of the rectum. As in hæmorrhoids, ligature has given rise to fatal nervous symptoms, excision to severe hæmorrhages; accordingly, these two methods appear to have been abandoned in both cases.

The actual cautery employed by the ancients, especially advocated by Marcus Aurelius Severinus, and described by Sabatier, who proposed to trace burnt lines upon the tumor, by means of an iron wire brought to a white heat, has been successfully practiced by Dr. Kluiskens of Ghent, and by several French surgeons.

It appears to me, however, that this process, which I believe to be preferable to the former two, may with advantage be replaced by the use of caustics.

We find in the records of science instances of complete gangrene of the prolapsed part, caused by strangulation produced by the sphincter, with cure. It would, therefore, at once occur to us to seize the base of the prolapse with a strong porte-caustique forceps, so as to induce immediate mortification, as in the case of hæmorrhoids, in imitation of what is sometimes done by nature. By acting thus we should probably do more than is necessary, and expose ourselves to the risk of causing a subsequent contraction of the anal orifice.

I think it would be sufficient and preferable, in such a case, to follow the plan I adopt with voluminous hæmorrhoidal tumors, namely, to destroy, by the same process of cauterization, the half or two-thirds of the mucous tumor, so as not to have a continuous linear cicatrix.

Such were the deductions I thought might strictly be drawn from the facts I have quoted, when, on the 25th of last August, M.X., a physician in the environs of Blois, who was acquainted with the former part of this essay, came to consult me about his wife, whose case I subjoin, and who was affected with a prolapse of the mucous membrane of the rectum. This very interesting case gives to the proposition I have announced the sanction of an experience, recent indeed, but which I hope to establish in a positive manner when time and facts shall have enabled me to make in it such modifications as may hereafter appear to be necessary.

[The case alluded to was one of voluminous prolapse of the mucous membrane of the lower extremity of the rectum, treated by cauterizing the two lateral portions of the tumor with a T-shaped forceps armed with Filhos' caustic; and resulting in cure. The patient, Madame X., aged 63, had always suffered from obstinate constipation; in her youth she was often, when she had not recourse to lavements, ten, twelve, and sometimes fifteen days without a motion. She had also long and alarming fainting fits at the times when the bowels felt as if about to act, and she made violent and prolonged efforts to expel the fæcal matters.

At the age of 54 the patient perceived that the mucous membrane of the rectum protruded externally, but this was not constant, taking place only at intervals of two, three, or four months, and continuing for not more than three or four days at a time. It was preceded by a feeling of general uneasiness, headache, and a sensation of weight and heat in the rectum, and was followed by a tolerably abundant hæmorrhage at stool, when all returned to its normal state.

Two years later, without the hæmorrhage being more frequent, the prolapse, from having been intermittent, became constant when the patient was up, and exhibited itself from the beginning under the form of four non-pediculated tumors, one superior, one inferior or perineal, and two lateral; the superior and inferior being smaller than the two lateral ones. This prolapse became, in time, more voluminous and more inconvenient, in consequence of the feeling of weight and dragging it occasioned in the uterus and its appendages. The patient, being no longer able to walk a step without putting her hand behind to raise the tumor, except during some hours after rising, when she had the evening before taken lavements, decided on submitting to a surgical operation.]

The accompanying drawing, taken a little before the operation, gives an accurate idea of her malady. It will be seen that there existed an undefined, unfurrowed, rosaceous, mucous tumor, as in the hæmorrhoidal affection, rendering it impossible for any one to be for a moment deceived as to the nature of the ailment.

A lavement having been administered, and efforts at defecation having been made, an examination was instituted. On exploring the vagina with the index finger, I ascertained that the cervix uteri was united posteriorly by a cicatrix such as my father obtains by cauterization in cases of retroversion and retroflexion. Bearing in mind the analogy existing between this affection and that which is the subject of this essay, I proposed to cauterize a portion of the mucous tumor, as if we had to do with voluminous hæmorrhoidal swellings. To this M. X. agreed.

On the 29th August, Madame X. having in succession taken and passed two lavements, using as violent efforts as possible, was placed on a bed furnished with a folded sheet and oilcloth, and in the position usually adopted in operating for hæmorrhoids.

The anus then presented the appearance represented in the figure; considering the lateral portions A A as two large hæmorrhoidal tumors I seized each at its base with a strong T-shaped porte-caustique forceps with protecting plates, and when I had placed the instruments as high as possible, I uncovered the caustic, and strongly tightened the two screws. But as the fissures between the four portions of the tumor were very shallow, I was obliged to add to one of the extremities of each forceps a forceps with porte-caustique rods, charged with paste of potash with lime, so as to make, artificially, furrows which did not already exist.

Everything having been thus arranged, I caused a current of iced

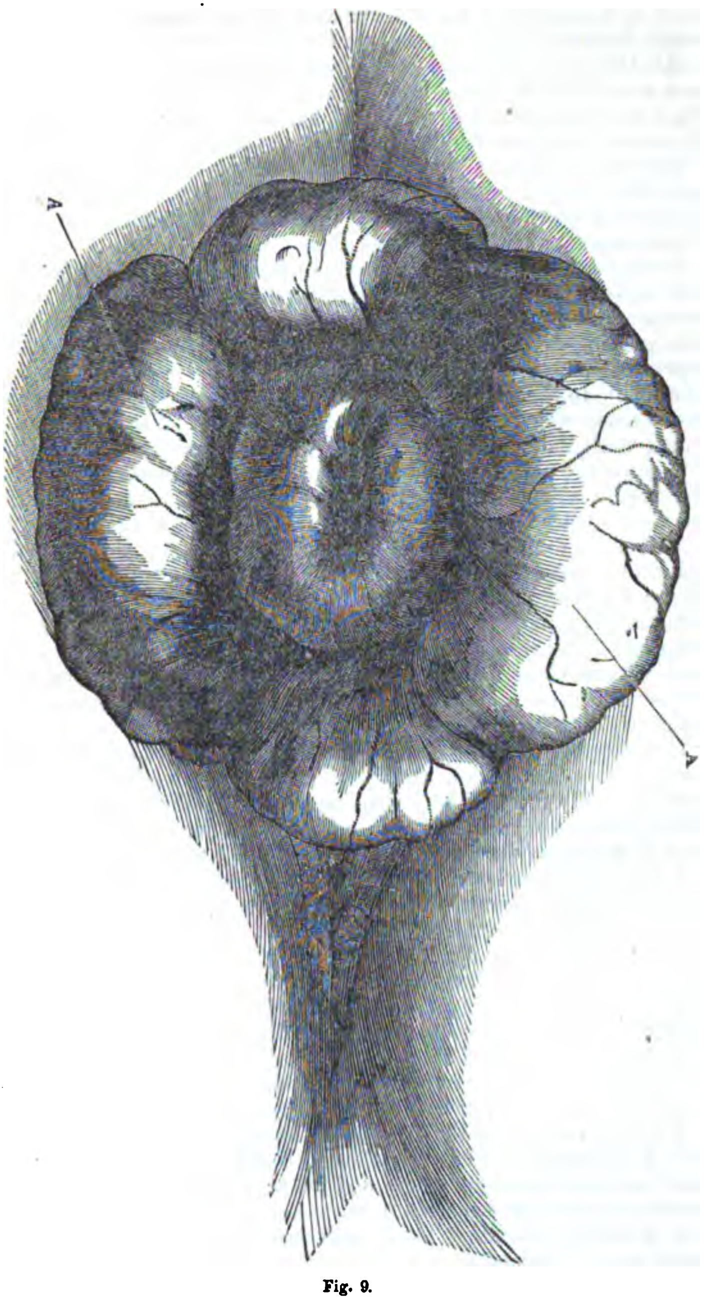

Fig. 9.

water to be thrown on the anal region with two large Eguisier's irrigators, during the ten minutes that the instruments remained applied. Under the influence of the very strong pressure exercised by the forceps, and of the current of iced water, the patient, a very nervous person, bore the operation so well, that she did not require the use of chloroform, which we had before agreed to exhibit.

The operation being over, I removed successively the small forceps, then the T-shaped forceps, and continued the douches of iced water for about a quarter of an hour, taking care to direct the jet on the points where the caustic had touched.

Having smeared the entire mucous surface with olive oil, I returned it by means of a regular taxis, and the patient was placed in a cool sitz-bath, a compress of linen having been fixed on the anal region so as to prevent the protrusion of the mucous tumor. The pain she had experienced, after the operation, was allayed, and soon became very tolerable. In the evening there was a little fever and complete retention of urine, which rendered catheterism necessary. The retention continued until the 2nd of September, when it ceased. On the 1st of September the patient voided per annum a blackish liquid; this kind of discharge continued for some days. On the 6th, a long portion of mortified areolar tissue was passed. On the 30th, a month after the operation, an examination was made; nothing was visible externally, and it was stated that no protrusion took place at stool. On the following day the patient returned to the country.

Since that time Madame X. has often had motions with scarcely any suffering; but being always constipated, she has frequently passed hard matters covered at first with a little blood, then with purulent matter; moreover, she takes walking exercise without the occurrence of the slightest prolapse.

It will be observed, in perusing the foregoing statement, that I followed in this case, both in the operation and in the subsequent treatment, precisely the method I have laid down for the cure of hæmorrhoidal tumors, namely, the cauterization of a portion of the mucous mass with forceps furnished with grooves filled with a caustic paste, and afterwards a strict diet, with the view of avoiding motions, particularly after the operation; accordingly, the consequences have been as simple and as favorable as in the affection I have just mentioned.

Prolapse might, no doubt, be treated with direct cauterization by means of a stick of Filhos' caustic; but this proceeding, though more simple, and not requiring a special instrument, would be more painful for want of the compression, and the continued injection of cold water.

Hitherto the result of the operation has been as satisfactory as could be wished, and it will continue so, if I may judge by the results we have obtained in the treatment of the largest hæmorrhoidal tumors.

To recapitulate from the foregoing, I think we may conclude:—

1. That the circular cauterization, such as I have described, enables us to cure hæmorrhoidal tumors, and the prolapse of the rectal mucous membrane which accompanies them.

2. That this operation has always been, in my hands, perfectly harmless in its immediate consequences.

3. That the health of hæmorrhoidal patients operated on after my mode has eventually improved, contrary to the generally received opinion.

4. That by circular cauterization we may also obtain the cure of prolapse of the mucous membrane of the rectum.—*Bulletin de Thérapeutique*, vols. 44 and 45.

Some Account of the Wounded in the Recent Bombardment of Sevastopol. By D. J. Dunigan, Esq., Surgeon, etc.—It may not be irrelevant to the subject, to give a short summary of the military position. The French occupy both flanks; the English are in the centre, their works being divided into the Right and Left Attacks (Chapman's and Gordon's batteries). The Right Attack fought the Mamelon, left flanks of Malakhoff, and Redan, and also some smaller works continuous with them. The Left Attack opposed the right flank of the works around the Malakhoff Tower, right flank of Redan, the Barrack, Garden, 4-Gun, and Flagstaff batteries.

The proximity of our batteries to those of the enemy ranged between 1800 and 660 yards; one, since raised in the Quarries, is distant only about 300 yards; the Rifle Pits, in advance, were, in some places, within 40 yards of each other.

During the bombardments, the Royal Naval Brigade sent 600 men into the trenches; those remained on duty between twenty-four and twenty-six hours; they marched into and out of battery under cover of night, to prevent the enemy firing upon them; the men took out their provisions cooked, and were accompanied by two Medical Officers —one for the Right, the other for the Left Attack.

The first parallel was occupied by the Royal Naval Brigade, Royal Artillery, Engineers, and Medical Officers, with their orderlies.

In the ravines, leading from the Camp to the batteries, ambulances were stationed for the transmission of the wounded to the Field Hospitals. The Medical Officers' duties in the trenches consisted, for the most part, in affording temporary relief to the wounded, namely, arresting hæmorrhage by ligature and tourniquet; splinting broken limbs, bandaging and forwarding the patients by fatigue parties on stretchers, to the different stations of the Ambulance Corps.

Most of the wounds were interesting in a Surgical point of view, but it would be both useless and tiresome to attempt even a list of them; yet some appeared to be so very singular in their nature, that I will mention those only, to the exclusion of all others.

I. *Shell Wounds.*

A seaman, knocked down by a fragment of mortar shell, was picked up dead. The head was apparently swept from his shoulders, but there was no trace of hæmorrhage. On disentangling his clothes, which were tightly jammed around the injured part, the head was found driven downwards into the chest, carrying with it a great portion of blue shirt and red comforter. A small tuft of hair alone was visible, at the bottom of a deep cavity. It was a regular intussusception.

An officer of Engineers had just entered the battery, when a 13-inch mortar shell fell close by him, exploding as it struck the ground. One thigh was blown into the air; the other, with its bones, shattered throughout, but retaining its continuity by means of the integuments, was thrown around the back of his neck, and hung pliantly over the opposite shoulder, just as the arm of a child might lie in contact with its mother's neck. He lived for a few minutes.

A shell from the Malakhoff burst through the embrasure of the right Lancaster gun, disabling four men. One received a compound comminuted fracture of the left thigh, and a similar injury of the arm; the second, a compound comminuted fracture of the left thigh; the third, a comminution of the right knee-joint and ankle, both which joints were widely open. About a pound weight of the iron shell was immovably impacted in the inner condyle of the femur. The fourth was an artilleryman at the next gun, whose tarsus was injured. There was extensive laceration in the three first cases, and the shock was extreme: there was an oozing or welling of blood in two of them. The Medical Officers attended to those cases where the men fell in rear of the embrasure, at which the enemy still continued to pour their shot and shell, but, fortunately for the Medical Officers, with less precision than before.

A shell was fired at a group, principally composed of Sappers and Miners. One was killed, his face having been shot away. Another was carried up to the first parallel badly wounded. On examination, it was found that half of the inferior maxilla of the dead man was driven into the roof of the second man's mouth.

A night or two after the capture of the Quarries, a man was killed in them by a shell from the Redan. An officer of the 97th, who was standing close by, received several severe superficial wounds from splinters. A foreign body was imbedded in the middle third of the left thigh, which was easily withdrawn by the finger. It was a large portion of one of the cylindrical bones of the man who had been killed; it was as sharp as a chisel.

Two artillerymen stationed in the 8-gun battery, in the advance, on the right attack, were sitting or lying down, engaged in conversation, when a shell exploded as it approached their position. The head of one was taken off, as if by an ax, above the neckcloth, the tie of which was undisturbed. The forearm of the other man must have lain in juxtaposition with his thigh, for both limbs were lopped off by the same blow, in a line corresponding with Poupart's ligament. This man lived for about half an hour, urgently requesting all around him to keep sprinkling his face with water. The wounds in both limbs were jagged. The muscles of the thigh were drawn out in long bands: there was no hæmorrhage.

Another artilleryman, somewhere about the same part of the works, had his left knee-joint laid open and comminuted by a fragment of shell: no shock; a slight hæmorrhagic oozing. As he approached the Medical Officers on a stretcher, he facetiously asked, if it was not "a wooden leg for him?" and as he was being carried to camp he asked us "to make the leg for him."

A 13-inch mortar shell dropped so close to a seaman that it burned his perinæum, testicles, and clothes as it burst. One of the ankle-joints was laid open; but the wonder is, how he escaped being blown to fragments.

About the central point of Gordon's battery, a shell burst among a gun's crew. One poor fellow was struck over the angle of the ribs. He uttered a cry for the Doctor, and rushed about twenty yards, when he staggered, fell, and instantly expired. His heart and great vessels were ruptured. A second man's face, right shoulder, and arm, with the trapezius and latissimus dorsi, were torn away from the body. A third received a compound fracture of ankle-joint, and a similar one of the ulna. The fourth escaped with a severe laceration of the calf of the leg.

An artilleryman, sitting near one of the magazines, had part of his thorax and shoulder cut away, in a line from the sterno-clavicular articulation to the hypochondrium, by the half of a 13-inch shell falling upon him.

As the Military Relief entered the Right Attack early one evening, the enemy opened a fire of shell upon them from the Garden batteries. One burst over the head of the column, by which two men were killed, and about a dozen seriously wounded, the legs and arms of some being carried away. One man, whose forearm was destroyed, had all the comminuted bones driven into the thigh.

II. *Wounds from round shot.*

These wounds are easily recognized at the first glance, as there is but little variety in the appearance they present. Most of the men killed by shot had their heads knocked away, either completely or in part. However, some cases occurred where those large projectiles went through the body, and even through the upper part of the thigh, making orifices of entrance and exit.

A bombardier, at one of the mortar batteries, while in the act of laying the mortar, was struck over the ribs by a spent shot, which had barely sufficient force to ricochet over the parapet, and drop into the covered way. As soon as the man was struck, he uttered a loud scream, and, as he fell, made a convulsive death-grasp, and seized the cap of the officer who was standing beside him. Death was instantaneous, although there was no mark nor breach of surface to show the size of the injury. Nothing could persuade his companions against the idea of his having been killed by a "wind contusion."

During the past winter, a shot ricochetted with great force over one of the parapets, carrying away the cap from a seaman's head. The man was a little stunned, but no further mischief ensued. When his cap was picked up it contained a handful of hair, which had been shaved from the scalp by the shot. This would have been "a poser" for the old wind contusionists!

III. *Bullet-wounds.*

Our advanced trenches being, in many places, within forty yards of the enemy's rifle-pits, wounds of great severity were inflicted on both sides, as the force of the bullets was undiminished by distance. The orifices of exit, caused by the conical balls, more resemble shell wounds, in some instances, than a bullet aperture. In wounds about the head, especially, I have seen nearly the whole of the parietal bone carried away.

Notwithstanding those jagged wounds from Minié balls, I have seen a soldier of the 41st hit by one on the nose, which caused as clean a wound as if done by a sharp knife. The nose was divided at the junction of the cartilages with the bones. The lower portion dropping down, but adhering by a good pedicle. It was brought together, as in hare-lip.

Most of the wounds caused by the new conical bullets are, however, remarkable for the manner in which they plough up the soft parts.

A soldier of the 33d was struck by a ball which made six openings. It passed through the right thigh, through the scrotum, and through the left thigh, where it escaped.

The Russians use several kinds of bullets—one a solid conical ball, which belongs to the Liège rifle; another of a larger size and conical form; hollow at the base, with a small pillar, or nipple, standing in the cavity. It is surrounded by three lines. At the base, to guide the ball in its flight, there are two other smaller ones, modifications of this principle. The old round ball is also still employed. In some cases two of those round bullets have been found connected by a transverse wire, like bar-shot.

IV. *Grape-shot wounds* have been severe and numerous. The following was an interesting case:—

A soldier of the 49th was struck on the temple by a grape-shot, which destroyed the squamous portion of the temporal bone. The brain was flowing through the wound, the man breathing stertorously. The grape-shot was supposed to be within the skull. It was subsequently found in his mouth, at the base of the tongue, pressing against the epiglottis.

Since the commencement of siege operations before Sevastopol, one Medical Officer has been killed, and two or three have been wounded. The first, Mr. O'Leary, Assistant-Surgeon of the 68th Regiment of Light Infantry, was actually cut in two by a cannon-ball while in the act of assisting a wounded seaman. It is only to be wondered at that more casualties have not occurred among the Medical Officers; for during the heat of the fire they are constantly called from place to place, running along the batteries through the line of fire, in quest of the wounded. During the second bombardment this peripatetic system was very trying and fatiguing, for the soil was heavy and tenacious from the torrents of rain that then deluged the trenches; and instances occurred where officers' boots drew off while running along to assist the wounded.

The French arrangements are excellent. They have established a surgery, with all the necessary appliances, in one of the ravines, where a staff of Medical Officers are stationed for daily duty. The Medical Officers in the trenches apply tourniquets, or do whatever is most urgently called for, on the spot, and then send the wounded on to the Hospital Staff, by whom they are next examined. If the cases demand immediate amputation, the operations are performed; if not so urgent, the cases are sent on to the Field Hospitals.

The duties of the siege fall heavily on the Medical Officers of the Naval Brigade, five of whom do that duty, and out of the five two go daily on trench duty. It comes to the turn of an Army Medical Officer to go less seldom into the trenches. The time of duty varies in the different divisions, according to the strength of the Medical Officers in them. In some the Medical Officer goes once in a fortnight, while in others the time extends even to once in five or six weeks. The Royal Artillery send no Medical Officer now, unless a general bombardment be going on. On the whole, this trench duty is very trying and hazardous; and, in performing it, the Medical men run the same dangers, if not more, certainly not less, than the executive Officers, who are generally stationary in a battery, while the Medical Officer, as ubiquitous as possible, is rushing in all directions to succor the wounded.—*Med. Times and Gazette.*

On Cæsarean Operation, and its performance more than once on the same subject. By Prof. Stoltz, of Strasbourg.—For upwards of fifty years, says M. Stoltz, this operation, although frequently resorted to in Paris, has not generally been followed by success, whilst towards the close of the last century it was, in numerous instances, attended with the best results, in the hands of the celebrated accoucheurs of that period, Lauversat, Deleurye, Coutouly, Millot, etc. This failure of the operation, in the practice of modern surgeons, he considers as having led to its being regarded as much more hazardous than it really is, and to its consequent restriction to those cases in which it is found impossible to effect delivery by any other method. Thus, the accoucheurs of Paris have nearly all been induced to adopt the English practice, according to which, rather than risk the life of the mother, they sacrifice that of the child, wherever the difficulty appears surmountable by so doing; a proceeding which our author believes to be unjustifiable, on the grounds that one life is taken without any certainty of thus saving the other. M. Stoltz has performed the Cæsarean operation six times, with the result of saving both mother and infant in four of these instances, and the child in the remaining two. The latest of these cases is that which he communicates to the Academy of Sciences, as possessing additional interest in the fact of its being the second occasion in which the operation had been performed, with complete success, on the same individual.

The patient, Adele Fenninger, æt. 39, was the subject of general rachitic deformity, and had been operated on, three years previously, by Dr. Bach, of Strasbourg, who published the case in the *Gazette Médicale*, of that city, in 1846. On that occasion the operation was successful, although performed under very unfavorable circumstances, the patient being "radicalement" rachitic, in very delicate health, ill nourished, and suffering from considerable obliquity of the uterus. At the time of the operation, somewhat too large an incision in the abdominal and uterine walls was attended with troublesome protrusion of the intestines; and during the progress of the case, erysipelatous inflammation of the points of suture, and phlebitis, followed by œdema, of the left inferior extremity, were circumstances which more than once threatened the life of the patient; however, by careful attention, these dangers were averted, and a complete cure was obtained in the space of two and a half months.

The second operation, which presents no features of much importance, is minutely described by M. Stoltz, who remarks, that from the ordinary course of the second pregnancy, three years after the first operation, it may be concluded that the cicatrization of the uterus had been sufficiently perfect to resist with impunity a second dilatation of that organ; and that the second operation, like the first, had been complete in its success, mother and child being both saved. In conclusion, he refers to a number of other instances where the operation had been repeatedly performed on the same patient with successful results. The following published cases are enumerated by him, and the publication mentioned in which they are to be found:—

Dr. Mangold, of Bale, operated, first in 1797, and again in 1801, and M. Mautz, in 1807, upon the same patient, who died on the twenty-second day after the third operation.

Dr. Bacqua, of Nantes, operated successfully on one patient, first in 1797, and again in 1806.

Dr. Dariste, of Martinique, operated successfully on one patient in 1805 and 1807.

Dr. Lemaistre, d'Aix, operated three times on one patient, in 1805, 1807, and 1814. The patient died five days after the last operation.

Dr. Charmeil operated in 1813 (?), and another surgeon in 1814, on one patient, each successfully.

Chaussier communicates the successful performance of the operation a second time.

Merrem of Cologne, operated successfully on one patient, first in 1812, and again in 1826. Dr. Zwanck operated for the first time on a patient named Adametz; Dr. Weidemann operated a second time; Dr. Michaelis a third, and again a fourth time, with success.

Dr. Rouvin communicates a case where the operation was repeated with success. Dr. Bowen performed the operation twice on one patient, in 1833 and 1835, with success.

Professor Kilian, of Bonn, operated successfully on one patient, first in 1832, and then in 1838. In another case, he operated in 1837, and the same patient recovered from a repetition of the operation in 1843.

Dr. Mestenhaeuser operated successfully on one patient in 1840 and 1844.

Here then, adds M. Stoltz, are fourteen well authenticated instances of this operation having been successfully repeated on the same patients. In two of the cases mentioned, the operation was performed three different times, but, on the last occasions, followed by the death of the mother. In a third instance, however, it was performed no less than four times with complete success. This example would almost induce him to believe in those cases quoted by some authors, where women were said to have undergone the Cæsarean section six or seven times. —(*Gazette Médicale.*)

PRACTICAL MEDICINE.

Account of Certain Anomalous Cases resembling Variola and Scarlatina. By W. T. Gairdner, M.D.—Recently, before the Medico-Chirurgical Society of Edinburgh, the author made some remarks on these anomalous cases, and on certain forms of disease, closely resembling them, which he had observed at different times. According to Dr. W. T. Gairdner's experience, some forms of syphilitic eruption very closely simulated variola; and, though the distinction could generally be made either at once or after a short period of observation, yet cases were not wanting in which the febrile concomitants and the character and distribution of the eruption combined to deceive the practitioner until after the lapse of several days. A case of this kind, in which the eruption appeared to be determined in a syphilitic constitution by the use of hydriodate of potass, was detailed to the Society at some length; and others were more shortly alluded to. During the past winter, Dr. Gairdner had witnessed a number of cases which he was disposed to consider as irregular forms of scarlatina. The regular type of the disease, although not present in an epidemic form, had, nevertheless, been occurring throughout the winter in Edinburgh and the neighborhood, in isolated cases and groups of cases. In Leith, there had been few cases, and those very mild. In Corstorphine and in Cramond, cases of scarlet fever had likewise occurred. In London, it appeared, from the Registrar-General's returns, that scarlatina had been twice as frequent during the April quarter as during any similar period for the last five years; and Dr. Gairdner thought it not improbable that an epidemic of scarlatina was to be looked for in the course of the summer in Edinburgh. His attention had been attracted, while performing dispensary duty last winter, by a considerable number of those submaxillary and cervical suppurations or acute swellings which are known to accompany scarlatina in many cases. There were comparatively few of these in which the history of an eruptive disease could be traced; and in two cases, in which eruption distinctly presented itself while the case was under observation, there were peculiarities in its character which were worthy of notice. In one, the eruption was discovered for the first time in the second week. It had been carefully looked for, at a considerably earlier period, without result; and had altogether escaped attention, if, indeed, it occurred before. In its character and distribution it resembled roseola much more than scarlatina; and the case was published by Mr. Geo. S. Sutherland, to whom it occurred, in the last number of the *Edinburgh Medical and Surgical Journal*, as a case of doubtful exanthematic disease. Shortly afterwards, a case of unquestionable scarlatina, with an ordinary eruption, and severe throat affection, occurred in the immediate neighborhood (Blackfriars Wynd); and in this case, which was, like the other, fatal, the rare occurrence, first noticed by Dr. Willan, presented itself—viz.: a recurring eruption at a very late period of the disease—the thirteenth day; this secondary eruption being much brighter than the other. Dr. Gairdner had repeatedly seen the eruptions of scarlatina and of small-pox much retarded, both in the date of their appearance and disappearance; and this not only in severe and irregularly developed cases, like those just mentioned, but in some which ran quite a favorable, and, in other respects, a normal course. In one very mild case of scarlatina, he (Dr. Gairdner) had seen the eruption appear somewhat late, and continue very bright throughout the greater part of the second week, when the patient, indeed, was quite convalescent. Dr. Hamilton, of Falkirk—a good authority on scarlatina—had also repeatedly observed this retardation of the eruption, but, for the most part, in severe cases.

Dr. J. D. Gillespie remarked, that he had lately seen a case illustrating what Dr. Gairdner had observed as regarded a second eruption appearing in scarlatina. The patient was an infant nine months old, and was one of a family of nine children, who had all, except the eldest, had a second attack of the disease, the whole of them having had well-marked scarlatina about a year previously. The infant had a copious florid eruption, and other ordinary symptoms, from which it appeared to be convalescing, when, about a fortnight subsequently, very severe coryza supervened, and, some days thereafter, a very extensive eruption appeared, resembling, somewhat closely, the eruption of measles. This eruption remained out two days, and then swelling of the parotid and cervical glands ensued, under which the little patient at length succumbed. Professor Simpson and Dr. Priestly had both seen the case. The father of these children being himself a retired medical man, and a careful observer, there could be no doubt as to the recurrence of scarlatina in seven of his children.—*Edin. Med. Jour.*

On the Pathological Anatomy of Chronic Hydrocephalus. By M. Blache.—In this communi cation, read before the Academy of Medicine, by M. Blache, one of the candidates for the vacant place in the department of pathological anatomy; the author's intention is to describe, more precisely than has hitherto been done, the details of the pathological alterations resulting from this disease.

He first examines the changes undergone by the nervous substance itself and the membranes enclosing it; and then passes on to the consideration of those occurring in the different cerebral cavities, and the canals and orifices connected with them. The following are the conclusions at which M. Blache arrives:—

1. In internal hydrocephalus the serum accumulates in the cerebral ventricles, but not in the cerebellar or fourth ventricle; it does not communicate with the cephalo-rachidean liquid.

2. Contrary to the opinion of some authors, the white and the gray substances are recognizable in the nervous laminæ, into which the fluid pressure transforms the ventricular walls; when the distention has not been excessive, the circumvolutions are also to be found, and, in all cases, thickenings, which are the vestiges of them.

3. The corpus callosum, fornix, and septum lucidum, are almost entirely destroyed and converted into fibrous laminæ.

4. The tuberculum annulare, the cerebellum, and the origin of the cranial nerves, preserve their integrity, with the exception of more or less alteration, always existing in the optic and olfactory nerves.

5. The ventricular membrane is thickened so much as to be capa-

ble of dissection throughout its whole extent, by which it has been established to be continuous with the choroid plexus, and prolonged across the aqueduct of Sylvius and the foramen of Monro.

6. In the interval between the two laminæ, which, by facing each other, form the septum lucidum, it is easy to demonstrate the existence of the fifth ventricle, and its communication with the third.

7. The pituitary body is canaliculated.

8. The anterior orifice of the aqueduct of Sylvius was found obliterated in the two cases where this was examined; the cerebral cavities were thus completely closed.

9. Regarding the nature of the malady, the absence of all softening of the cerebral substance, and the very slightly plastic nature of the fluid effused, discountenance the idea of chronic hydrocephalus being the result of inflammation. In our opinion, says M. Blache, it is a pure and simple hydropsy.—*Edin. Med. Jour., from L'Union Médicale.*

On the Use of Chlorate of Potash in Mercurial Stomatitis.—From the experiments of M. Herpin, of Geneva, from those of M. Blache (*Gazette Hebdomadaire*, vol. ii., No. 8, page 147), as well as from some well-detailed facts that M. Demarquay has just reported, it would appear that chlorate of potash, given internally, arrests, with rapidity and certainty, the effects of mercurial stomatitis. This effect has been established in patients in whom the mercurial intoxication supervened on the exhibition of mercury for syphilis, puerperal peritonitis, and ophthalmia.

The chlorate is administered in a mucilaginous mixture, the dose commencing with half a drachm, which is frequently sufficient to remove the symptoms. But it has been given to the extent of four scruples, two and a half drachms, half an ounce, and upwards.

As this medicine, notwithstanding its remarkable efficacy, is by no means a specific, we must not neglect to combine with it local astringents and caustics, which, even alone, possess so powerful an action in mercurial ptyalism.

M. Gustin, intern in pharmacy, wishing, for the sake of experiment, to submit himself to the action of chlorate of potash, took two drachms at nine o'clock in the evening. On awaking, a sort of astriction, with slight nausea, was perceived in the mouth; the gums were a little rough to the touch. Although the saliva was not sensibly lessened, it appeared to him to be more watery than usual. This observer has also proved that the chlorate of potash is, in great part, eliminated by the urinary secretion.—*Bulletin Général de Thérapeutique*, and *Gazette Hebdomadaire.*

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

Paronychia Benigna, Analysis of eighty-one cases, with Practical Observations. By Austin Flint, Jr., M.D.—From the foregoing facts we see that the causes of paronychia are various. The most frequent causes, however, are exposure of the hands to hot water, as in washing dishes, or a slight hurt or bruise. In forty-one cases the causes were of this description. More rarely the cause is general or constitutional, though this is sometimes the case. In ten cases the cause has been recorded, bad health, ship fever, suppressed menses, etc.

Of the entire number of cases, one was not properly a paronychia, but was a fungus at the root of the nail; eight were of the first variety, onychia cutanea; five were of the first and second variety, cutanea and cellulosa; and the remaining sixty-seven were of second, third, and fourth varieties, onychia cellulosa, tendonosa, and osteosa.

In the case of the fungus at the root of the nail, nothing is recorded, but that on the twenty-first day the fungus was the size of a pea.

The cause was recorded as constitutional in three of the five cases, which were of the first and second variety combined; there was no record, under this head, in the remaining two cases. In three of these cases the treatment was merely the application of arg. nit.; in one case it opened spontaneously on the eighth day, but the inflammation extended to the areolar tissue, pus was formed, and it was opened on the fourteenth day; in the remaining case there is no record under the head of treatment.

All these cases resulted in perfect cures.

Of the eight cases of the first variety, onychia cutanea, six were caused by slight injuries, and two were dependent upon constitutional causes. Six were treated with arg. nit, and poultices; one with a poultice alone; and one got well spontaneously. One, however, was opened before the arg. nit. was applied.

Four of these cases resulted in a perfect cure; one of them in the loss of the nail, and the remaining three appear to have been lost sight of.

In the sixty-seven cases which were of the second, third, and fourth varieties, I shall consider only one feature in the treatment, namely, whether it was opened or not, and how long after the commencement of the disease before it was opened. The other measures of treatment have been so imperfectly recorded, that their consideration would be of little value.

In fifty-five cases the result has been recorded. Thirty-six resulted in perfect cures; and nineteen, either in loss of part of the finger, or anchylosis.

Of the thirty-six cases, twenty-nine were opened; in the remaining seven cases, there is no record under this head. In twenty-seven cases pus had been formed; the remaining nine did not suppurate.

Of the twenty-nine cases where the finger was laid open, ten were opened on the seventh day; eight of these had suppurated and two had not. Seven were opened on the tenth day; three on the fourteenth day; two on the thirteenth day; one on the eighth day; one on the eleventh day; and one on the fifth day. All of these had suppurated. Two were opened on the fourth day, one having suppurated and one not. One was opened on the third day, and one on the second day; neither of them having suppurated.

In the nineteen cases where the cure was imperfect, twelve were opened, and in seven there was no record under this head.

One was opened on the twenty-eighth day; one on the twentieth day: one on the fifteenth day; one on the fourteenth; two on the seventh; and one on the fourth day. In the last case no pus was found. One case opened spontaneously. This case was treated by an empiric, who was prosecuted and mulcted in damages, for not opening the finger. The case resulted in a loss of the entire finger.

From the results of these fifty-five cases, we see that we may expect a perfect cure in the majority of cases. In the cases which resulted in perfect cures, only six, out of twenty-nine, were opened after the tenth day; seven were opened on the tenth day, and ten on the seventh day; and one was opened as early as the second day, before pus had been formed. None were opened later than the fourteenth day. But in the cases where the cure was imperfect, one was not opened at all; seven were opened from the fourteenth to the twenty-eighth day; two only were opened as early as the seventh day, and one on the fourth day.

These facts show the importance of opening the finger at least as early as the tenth day, and it would appear to be proper to do so, as soon as the disease has become established; even before pus has been formed.—*Buffalo Med. Jour.*

Paralysis Supervening after Anæsthesia by Sulphuric Ether. By Dr. Hooker, of East Cambridge, Mass.—In the month of November, 1853, I administered sulphuric ether to a gentleman from the country, for the purpose of removing a fatty tumor from the back part of the left shoulder and neck. The tumor extended from a little above the spinous process of the scapula along the trapezius muscle upwards, to its insertion in the occiput. The tumor was wholly between the fascia covering the muscle and the skin, leaving but little adipose matter between the tumor and the skin. The tumor was confined wholly to the left side, not extending over the median line, and was from five to six inches in length, and from two to three inches in width. The operation and dressing did not occupy more than half an hour, and during that time about eight ounces of concentrated sulphuric ether were used. For only a short space of time was the patient completely narcotized. The operation was performed in the sitting posture, and but little blood was lost. Before the dressing was completed, a change came over him, resembling syncope, and he was removed to his bed. Free emesis then took place, and he soon rallied, but not to perfect consciousness. After a little delay, he was left for the night, apparently as comfortable as is usual after etherization.

The next morning he gave the following account of himself during the evening and night. As his consciousness returned, he found the same prickling and benumbed sensation in his limbs, that he felt creeping over him when he first began to inhale ether. This was alike on both sides of his body. It soon passed off from the left side, but did not from the right. During the night, he found that he could not move his right arm and right leg, that they were destitute of sensation, and that he had not been able to move himself from the position in bed in which we had placed him after the operation. In this condition I found him in the morning. Complete paralysis of the right side, excepting the nerves of the face, tongue, and throat. He had retention of urine. The paralysis of the extremities continued for nearly a year, before he was able to use his limbs with any degree of freedom.

He was a man of forty years, healthy, of abstemious habits—a rigid cold-water drinker; had never had any paralysis before, nor is there any predisposition to it in the family. He was of a taciturn character, but for two or three weeks after the operation he was very jocose, exhibiting a degree of levity entirely at variance with his usual turn of mind. He had taken a good deal of exercise in the early part of the day of the operation, and had eaten pretty freely of a boiled dinner, consisting of potatoes and squash, with a small amount of corned beef, as was shown by what he ejected from his stomach. It will be remembered that he did not vomit till after he was placed in bed, and after the syncope.

The interesting question now occurs, what was the cause of the paralysis? Was it the inhaling of ether, or was it from the loaded state of the stomach and the shock the system may have sustained from the operation? To the friends, I suggested that it might have arisen from the two latter causes, as ether had, to my knowledge, never been known to produce permanent paralysis. I must confess, however, that the suggestion was far from being satisfactory to myself, and I have thought the case worthy of being reported to the profession.—*Boston Med. and Surg. Jour.*

Foreign Body in the right Bronchus—Ejected by exciting Cough. By Prof. Paul F. Eve, M.D.—On the 29th of April last, Mr. Hendrix of Marion county, East Tennessee, brought his son, aged four years, to Nashville, seeking relief from the symptoms produced by a grain of corn which had passed down his wind-pipe. This occurred two weeks previous to his arrival here, when the child was playing with his sister, who excited laughter while he was holding the grain of corn between his teeth. He was instantly seized with a severe paroxysm of cough, attended with threatened suffocation, which recurred at irregular intervals, but particularly early in the morning. Emetics, percussion upon the chest, inversion of the body, etc., having failed to remove the foreign body, the patient was then brought to our city.

Dr. Parks of Williamson county, (on a visit,) and Drs. Watson and Briggs examined the case with me. We ascertained that air was occluded from the right lung during ordinary respiration; but that some did penetrate at violent and sudden efforts at inspiration, and then there was loud mucus ronchus: there was increased expansion in the left lung; flatness on the right side of the thorax; altered voice; considerable febrile action, with irregular circulation, manifested, when the patient became excited, by distention of the veins in the neck, pallor of the lips, etc. There were no symptoms of the grain of corn having lodged in the larynx or trachea.

From these phenomena, collected, it is true, not only without the co-operation, but during the resistance of the patient, and from the history of the case, we diagnosed the presence of the foreign substance in the right bronchus. And it fortunately happened, during a violent paroxysm of cough, excited by manipulating upon the chest, and the anger of the boy, that the grain of corn was expelled and fell upon the floor of the room enveloped in mucus. Respiration instantly became easier and the unpleasant symptoms disappeared, leaving only a slight bronchitis.

The corn is a large grain of the common gourd seed variety, having a considerable spiculum at the cob extremity and a flattish one at the other or free end. The husk had probably been cut by the teeth of the child, for it was softened, even pulpy, and some of the farina had exuded and came up with the mucus from the bronchus.

One Remark.—Does not this case furnish a hint as to the propriety or necessity of operating for the removal of foreign bodies from the air-passages? It is this, so long as air, under any circumstances, *can pass the substance introduced*, we may hope for its expulsion without opening the larynx or trachea—*Nashville Jour. Med. and Surg.*

On the Use of Sulphate of Bebeerine in Menorrhagia. By Prof. A. P. Merrill, M.D.—A few weeks ago I was summoned, in haste, to a lady suffering from an attack of menorrhagia. She had been long subject to excessive menstrual discharges, and uterine hæmorrhages, and had been treated for them by several physicians without success. I administered five grains of the sulphate of bebeerine, which I happened to have in my pocket, and ordered twenty pills of four grains each, one of which she was directed to take every two hours, until relief should be obtained. On visiting her the succeeding day, she showed me the twenty pills, and said the dose I had given her suspended the discharge before they were brought from the druggist, and she deemed it unnecessary to take them. One other case, occurring about the same time, in all respects very similar to the above, was relieved, also, by a single dose of five grains.

I could relate more than a dozen cases besides the foregoing, more or less severe, in which the sulphate of bebeerine has been successful. Several women in this city are now in the habit of keeping the remedy always at hand, with perfect confidence, from the results of their own experience, of being able to restrain excessive menstruation, and uterine hæmorrhage, whenever they may occur. In several cases, also, I have known it relieve leucorrheal discharges, and to give tone and vigor to the vagina, suffering relaxation from the effect of such discharges; and it is the only internal remedy upon which I have been able to rely, for the relief of *pruritus vulvæ et vaginæ.* Whether this remedy will prove to be as valuable as the above experiments would seem to indicate, remains to be proved; and it is with a view to elicit such proof, that this publication is made.—*Memphis Med. Recorder.*

Complete Inversion of the Uterus—Restoration on the Seventh Day. By Prof. F. H. Hamilton, M.D—Mrs. A. B., aged twenty-two years, was brought to bed with her first child on Friday, the 30th of March, 1855. Mrs. B. had always been delicate. The labor was not rapid, nor remarkable in any respect. The surgeon in attendance, one of our most skillful and experienced country accoucheurs, was waiting quietly for the placenta, when, without any admonition, it was suddenly expelled, and at the same moment, the uterus become completely inverted. The surgeon was immediately aware of what had occurred, but in the midst of his surprise at so unusual an event, and his alarm for the safety of his patient, who seemed to be dying, he omitted to make any attempt to restore it to position.

After some hours, Mrs. B. began to rally, and from this time she steadily improved until I saw her, just seven days from the day of her delivery. She was then pale, but this was, in some degree, habitual. Her bladder and bowels had been emptied regularly. The uterus could not be felt in the belly. The hæmorrhage, which had never been excessive, ceased entirely a few days after the occurrence of the inversion. She had an almost constant pain in the region of the uterus and vagina, low down in her pelvis, with occasional exacerbations like afterpains. The uterus could be felt, as she lay upon her back, about one inch within the vulva, and of the shape and size, nearly, of a large pear. The fundus was rough and slightly fissured, feeling somewhat like the surface of a placenta, but much more firm. As the finger was pressed upwards and around the sides of the tumor, the surface became abruptly more smooth. The *cul de sac* formed by the reflection of the vagina from the neck of the womb was easily reached on all sides. The womb was not particularly tender to the touch.

Mode of Reduction.—The patient lying in bed upon her back, I introduced my right hand carefully into the vagina and pressed the womb upwards firmly, until the walls of the vagina were extended to their utmost, and my strength was nearly exhausted. During most of this time I was pushing with my four fingers and thumb, grasping the uterus, and only once did I rest a knuckle of my forefinger against the fundus. The patient was hurt considerably, but no impression was made upon the inversion.

After a few minutes I repeated the same manipulation, and with the the same result.

Reluctantly, I now made a third effort, having very little confidence that I should succeed, at least without the aid of chloroform. I employed at this time no more force, nor was it longer continued, but while I was pushing I felt the uterus gradually receding, and in a few seconds more my fingers were within the neck, which opened widely beneath the restored fundus and body. I continued to press gently against the inside of the womb, as if to support it from falling, and meanwhile the mouth was felt to be closing by a sensible and irregular contraction, until at length it was sufficiently closed to warrant a withdrawal of the hand.

The patient was only slightly fatigued. The womb could now be distinctly felt in the abdomen.

The process of restoration was by *evolution from the neck*, and not by introversion from the fundus. This could be distinctly observed throughout the procedure, the fundus being the last to disappear. There has been no recurrence of the accident, and her recovery is complete.—*Nashville Jour. of Med. and Surg.*

SURGERY.

Resection of the Superior Maxillary Bones for Medullary Fungus. By M. Shuppert, M.D., of New Orleans.—I ordered the patient to the Charity Hospital, on the 15th August, and operated next day in the amphitheatre of that institution, in presence of a number of medical gentlemen, with the assistance of Drs. Beard and Choppin.

The appearance of the disease at that time was as follows: On the right side of the face, below the orbit, between the zygomatic process and the nose, there was a tumor of 5$^{cm.}$ in diameter at its base. The skin over it was red, and innumerable enlarged blood-vessels were to be seen just under the surface. Above the tumor there was an abscess of the lachrymal sac, and there was no doubt that the disease had extended to the left maxillary bone. Out of the nostrils protruded some tumors. Inside the mouth nearly the whole bony wall was involved in fungus growths of different sizes, of red color, and effusing matter of a penetrating odor.

He was put under the influence of chloroform. An incision was now made down the nose, beginning opposite the inner canthus of the eye, having the septum to the left, and cutting through the upper lip near the right edge of the fossa. A second incision was made, beginning at the same point as the first, and extending under the eye-lid to the molar bone of the right side of the face; and a third was made on the left side, of the same extent. The two flaps were now detached from the bones and held back by assistants. The greater part of the right superior maxillary bone was gone and replaced by fungus growth. From the left maxillary bone about two-thirds were taken with Liston's process. The flaps were brought back to their places and retained by twisted sutures. Patient lost but little blood. At night he had slight fever. Morphine was ordered.

On the 5th day the needles were taken out, and notwithstanding the parts had healed, adhesive strips were applied to support the cicatrices. On the 10th day the patient was sent out of the hospital. His appetite had returned; he could sleep well, and his strength was being rapidly regained.

During the operation, the patient was under the influence of chloroform up to the time of the application of the cautery. Notwithstanding the blood was constantly running into the fauces during the operation, it was promptly rejected by the involuntary muscular motion.

Four weeks have elapsed since the operation was performed, and the patient is not only able to attend to his daily labors, but he has been during that time restored to society, and these results alone are a full equivalent for the few hours of suffering consequent on the operation.—*N. O. Med. News.*

On the Effects produced upon the Brain by, and the Statistics of, Ligature of both Primitive Carotid Arteries. By Geo. C. Blackman, M.D., Prof. of Surgery in the Medical College of Ohio.—To an exceedingly valuable and elaborate paper on this subject, published in the September number of the *Western Lancet*, we find appended the following remarks:—Our table embraces, including the one witnessed by Chelius, and the last reported of Dr. Mott, twenty cases, and of these the operation was followed by fatal results in but two instances. Dr. Mott tied both with an interval of only 15 minutes, and the result was almost immediately fatal. This case is a sufficient refutation of the doctrine laid down by Mr. Miller, in his paper to which we have already referred, and which was published in the *Ed. Month. Journ.* for Jan. 1842. After examining the results of the experiments of Mr. Robert on animals, Mr. M. asserts, that in future, we need not hesitate to secure both common carotids by ligature simultaneously, should circumstances imperatively demand such a severe proceeding.

The shortest period at which both carotids have been successfully tied, is four and a half days. The operation was performed by Dr. John Ellis, of Grand Rapids, Michigan, to arrest the hæmorrhage, proceeding from a gun-shot wound of the neck. The patient was 21 years of age. The left carotid was secured, Oct. 28th, 1844, and the right 4½ days subsequently. A slight coldness of the face on the side of the operation followed the application of the first ligature, and there was an occasional throbbing beneath the sternum. There was "slight paleness" after the second operation, and at the end of 24 hours the patient began to suffer from a hacking cough and difficulty of breathing. These symptoms at length yielded to venesection, aconite, and belladonna. In June, 1845, the patient was enjoying comfortable health and attending to business (*New York Journ. of Medicine, &c.*, Sept., 1845).

In conclusion, we may remark, the mortality following the ligature of both primitive carotid arteries, as shown by our table of cases, contrasts strangely with that in the one drawn up by Dr. Norris, of the ligature of one of these trunks (*American Journal of Medical Science*, vol. XIV. 1847). While his statistics show a mortality of 1 in 4 7–10 cases, our collection of both carotids exhibits but 1 in 20 cases. This estimate, of course, does not include Prof. Parker's fatal case, the cause of death in this being somewhat uncertain.

Dislocation of the Femur into the Ischiatic Notch. Reduction by Manipulation. By Prof. HAMILTON.—*March* 23, 1855.—Charles McCormick, aged 21 years, at work for the "State Line R. R. Co." was caught between two freight cars, with his back resting against one and his right knee against the other; his thigh being raised to a right angle with his body. As the cars came together he felt a "cracking" at his hip joint, and was immediately unable to walk or stand.

Two hours after, I saw McCormick, his right thigh was flexed upon his body to nearly a right angle and adducted, the knee being carried across the opposite thigh. It was also rotated inward, but not forcibly.

Procedure.—The patient lying upon his back, I seized the right leg and thigh with my hands, the leg being moderately flexed upon the thigh, and carried the knee slowly up towards the belly until it had approached within twelve or fifteen inches, when, noticing a slight resistance to farther progress in this direction, I carried the knee across the body outward, until I again encountered a slight resistance, and immediately I began to allow the limb to descend. At this moment a sudden slip or snap occurred near the joint, and I supposed reduction was accomplished; but on bringing the limb down completely I found it was in the same position as before. I think the head had slipped off from the lower lip of the acetabulum, after having been gradually lifted upon it.

Without waiting, I commenced to repeat the manipulation, and in precisely the same manner. Again at the same point, when the limb was just beginning to descend, a much more distinct sensation of slipping was felt, and on dropping the limb it was found to be in place and in form, with all its mobility completely restored.

No anæsthetic was employed, and no person supported the body or interfered in any way to assist in the reduction. No outcry was made by the patient, yet he informs me that moving of the limb hurt him considerably. The amount of force employed by myself was just sufficient to lift the limb, and the time occupied in the whole procedure was only a few seconds.—*Buffalo Med. Journal.*

THERAPEUTICS.

Sulphate of Quinidine in Intermittent Fever. By C. B. GUTHRIE, M.D.—The thirteen cases here reported were treated with quinidine, the sub-salt of the new Bogota bark—called by writers *China Bogotensis.* This new alkaloid differs from quinine, and has been esteemed as of less value in the treatment of periodic diseases. This bark is found in the province of Fusagasoga, some twenty-five miles from Bogota, and is generally recognized under the common name of Bogota bark, a name applied commercially to all barks from that region of South America, though including seven or eight varieties, many of which contain quinine and cinchonine.

These cases were reported by Dr. Foote, of Texas, then a student in attendance at the Dispensary. Dr. F. remarks in his report to me, "In none of the thirteen cases did I hear any complaint of its affecting the head unpleasantly, as quinine so often does, though in many instances given in larger doses than we usually administer quinine." He also remarks that from the effect of the quinidine as exhibited by the cases reported, we are bound to acknowledge its "great anti-periodic power."

The question with the medical profession, especially here in the south and south-west, is not whether quinidine has anti-periodic properties alone, but whether it has not this therapeutical effect without the disagreeable adjuvant found in the quinine, and also whether the use of this alkaloid, the product of a bark not monopolized by the English government, or for which we may not be obliged to pay her tribute, may not be less expensive and quite as certain as quinine?—*Memphis Med. Rec.*

"*Sugar and Salt as a local Solvent in Chronic Congestion of the Cervix Uteri.* By Dr. F. J. Bumstead.—The following novel method of reducing the congested state of the cervix uteri, which is so commonly met with in the chronic affections of this organ, accompanied by discharge from the os and "ulceration" of its mucous surface, has been so successful in my hands, and in the practice of several gentlemen to whom I suggested its use, that I desire to make it more generally known through the pages of your journal. The plan of treatment of which I speak originated, I believe, with M. Caudmont of the *Ecole Pratique*, Paris; at any rate, whether original or not with him, it first came to my knowledge, four years ago, from his practice at his private clinique, and I have been unable to trace it to any other source.

The following is the method of its application:—The os uteri having been exposed by means of the speculum, equal parts of sugar and common table-salt, finely pulverized and mixed, are impacted around the vaginal portion of the cervix uteri, and retained in place by a pledget of lint or cotton wadding, moulded into the form of a *godet*, or small cup, and having a string attached to its convex surface to facilitate its subsequent extraction. Thus applied, it is left *in situ*, and the patient is directed to withdraw the plug, by means of the string attached, in the course of twelve to twenty-four hours.

Its effects are to produce a very copious discharge from the parts to which it is applied; so much so, indeed, that patients should be cautioned to take means for the protection of their linen; and at the following examination the cervix is found to be greatly relieved of its swollen state due to the products of congestion, and much reduced in size.

The most obvious explanation of the action of this application would appear to be found in the principle of exosmosis. Its advantages over the use of leeches or potassa fusa to accomplish the same purpose, are obvious. It is exceedingly simple and speedy in its action; it is attended with no danger of injury to the neighboring parts or of hæmorrhage; it attains the end with but little pain or inconvenience to the patient. Moreover, the experience of several gentlemen, enjoying a large field for observation in the treatment of uterine diseases, whom I induced to make a trial of Caudmont's method, confirms the result of my own practice, viz.: that it is even more efficacious as a solvent than the ordinary applications in chronic congestion of the cervix uteri."—*N. Y. Med. Times.*

Aromatic Syrup of Galls.—The following preparation has been considerably employed in Philadelphia, and is attributed by some to the late Dr. Joseph Parrish of this city. It is used in the diarrhœa of children.

Take of Galls, powdered	half an ounce
Cinnamon, bruised,	
Nutmegs, bruised, of each	two drachms.
French brandy,	half a pint.
Sugar, in small lumps,	two ounces (troy.)

Macerate the solid ingredients in the brandy for twenty-four hours, throw in a filter, and, when drained, add diluted alcohol till half a pint in all has passed.

Having placed the tincture in a shallow capsule, suspend the sugar over it, on a slip of woven iron wire, and then inflame the tincture. The flame proceeding from the burning alcohol fuses the sugar and scorches it so as to produce a portion of caromel, and as it melts it falls into and dissolves in the liquid beneath. When the combustion stops the whole should be stirred and filtered for use.—*Editor Amer. Jour. Pharmacy.*

To preserve Compound Syrup of Squills—Hive Syrup.—By A P. Sharp, M.D., of Baltimore.—Hive syrup being one of the most common and important syrups kept by the pharmaceutist, it is all important that it should be properly prepared, and not likely to ferment. In order to avoid the latter difficulty, (which is the common complaint among druggists and pharmaceutists,) I have tried several processes, intended, at the same time, to get possession of all the active principles of the root. The following method has proved the most effectual in overcoming the difficulty spoken of, and, at the same time, yields a beautiful, active, and certain preparation.

As soon as one lot is prepared, I immediately put another one under way, as follows:

The Seneka and squills (of each 8 oz.) are bruised to a coarse powder, and macerated with one gallon of diluted alcohol, (alcohol 1 qt., water 2,) until my stock of syrup is nearly out, (sometimes standing two or three months,) and then pressed or transferred to a percolator and displaced. The tincture is then evaporated until I am satisfied there is no more spirit left. I then filter, when cold, to get rid of the albumen and resinous matter, and then add the sugar (7 lbs. troy) and evaporate (without boiling) to the proper quantity, (6 pints,) strain, if necessary, and add the tartar emetic, (96 grs.) Any one pursuing this plan, I think, will obtain a syrup that will prove satisfactory to himself, as well as to his customers.—*Stethoscope.*

MISCELLANEOUS.

A Remarkable Case of Super-Fœtation.—The following case was related to us by Dr. Bigelow, of this city, who is cognizant of the facts:—Mrs. C., æt. 18, of healthy constitution, accustomed to menstruate every two weeks, was married Oct. 9, 1854, after which she had three menstrual periods in regular succession. On the 10th day of July following (nine months and one day after marriage) she gave birth to a full-sized male child. She did not, however, regain her former size, the lochia continued for a week; the milk was watery and scantily secreted, so that the child had to be fed, and in about a week she was up. She continued well until the 22nd of Sept., (72 days after the birth of her first child), when she was taken sick, as she supposed with cholera morbus, but after a short labor she gave birth to a female child, of about the same size as the former. The lochia continued longer this time, and the milk was secreted abundantly. Both children are thriving, and the mother is in perfect health.

Second Edition of Prof. Bedford's *Work on the Diseases of Women and Children.*—We have received a *second Edition* of Prof. Bedford's *Clinical Lectures*, the first edition of which was issued about three months since. The rapid sale of this work we believe to be unprecedented in the history of medical literature in this country, which, with the general favor which it has received from the press, must prove highly gratifying to the author, showing, as it does, the degree of estimation placed upon his labors by the medical public. The following is the author's preface to the second edition:—"My Publishers having informed me that it is necessary to put to press a second edition of the '*Clinical Lectures on the Diseases of Women and Children*,' it would be affectation in me not to express the pleasure I derive from the rapid sale of the work, which, it must be admitted, is not only novel in its general arrangement, but which constitutes a very distinct departure from the systematic treatises heretofore presented to the practitioner and student of medicine. I was anxious that the Lectures should go forth to the profession without any concealment as to the circumstances under which they were delivered. The diseases discussed are, as it were, so many types of what the physician is constantly called upon to treat in his daily rounds of duty, and, therefore, their character is essentially practical. To say that the first edition has been exhausted in a period of three months, is at once an acknowledgment of the kind appreciation of my professional brethren. But I should be wanting in candor if I did not add that, in my opinion, the success of the work has been materially aided by the flattering criticisms of my brethren of the medical press. To those gentlemen who have so generally and spontaneously, in language of kindness, spoken of my work, I beg leave most cordially to return my thanks. I feel much gratified with their flattering commendations. It will be seen that I have added to the present edition *Formulæ of Remedies*, which, I trust, will prove serviceable."

College of Physicians and Surgeons.—Chair of Chemistry.—We learn that Professor Torrey, finding that his engagements at the United States Assay Office will prevent the satisfactory performance of his Collegiate duties, has resigned the Chair of Chemistry which he has held with so much credit to himself for the long period of nearly thirty years. To supply the vacancy thus created, the Trustees have selected Professor JOHN LE CONTE of the University of Georgia, who, we are happy to state, has accepted the appointment, and will enter on the performance of his public duties at the commencement of the ensuing Session. As this gentleman's name, though well-known to American Naturalists, among whom he has already gained an enviable reputation, may not be familiar to our purely medical readers, we have thought that something more than a mere announcement of his appointment might be acceptable to them. Professor Le Conte is a graduate of the College of Physicians and Surgeons of the class of 1840-41. In 1846 he was appointed Professor of Chemistry and Natural Philosophy in the University of Georgia. Here he soon acquired great popularity as a lecturer and has for some years been looked on as one of the strong men of that Faculty. From this scene of honorable labor he is now summoned, at the unanimous recommendation of the Faculty, his future associates, and by a vote of the Trustees equally unanimous, to take his place among the teachers in his alma mater. From intimate personal acquaintance we have no doubt that Professor Le Conte will amply justify the good opinion of the Faculty and Trustees. As an assiduous and successful cultivator of Natural Science he will not only be a great gain to the particular Institution in which he is to labor, but a most valuable addition to the scientific men of our city and State.

The following highly complimentary resolutions were adopted by the class of the University of Georgia, on the occasion of his leaving that Institution:

Resolved, That we deplore the resignation of Dr. Le Conte, as a loss to the community, as a loss to our State University, and as an irreparable loss to ourselves.

Resolved, That his uniform courtesy and gentlemanly bearing towards the Students, and his kind attentions and medical advice to them when sick, have enshrined his memory in their hearts.

Resolved, That his indefatigable efforts to promote their advancement in science, deserve our sincere and lasting gratitude.

Resolved, That our warmest wishes for his prosperity and happiness accompany him to his new home; and that, wherever his future lot may be cast, our sincere desire is, that he may receive the appreciation to which he is justly entitled by his merits as a man, and his attainments as a scholar.

Resolved, That a copy of these Resolutions be forwarded to Dr. Le Conte at the city of New York.

L. S. Wilson,
Frank M. Green, } *Committee.*
Edward D. Beman,

Atlanta Medical and Surgical Journal.—Since the issue of our last number we have received the first two numbers of a monthly journal published at Atlanta, Ga. It is edited by Drs. Logan and Westmoreland, Professors in the Atlanta Medical College, and judging of the merits of the specimens before us, deserves the patronage of the profession. We welcome it to our exchange list.

Vermont Medical College.—The Chair of Anatomy in this College, recently made vacant by the resignation of Prof. Elliott, has been filled by the election of John W. S. Gouley, M.D., of New York city. This is an admirable selection, and one destined to advance the interests of the School, as Dr. Gouley unites in the highest degree the qualities of a successful student and competent teacher of Anatomy.

Second Edition of Vidal on Venereal Diseases.—We have received from Messrs. Wood, of this city, a second edition of Vidal's Treatise on Venereal Diseases, just issued. It is a work well deserving the rapid sale which it has met.

OBITUARY.

Death of Moreton Stillé, M.D.—Died at Saratoga Springs, on the 20th of August, Moreton Stillé, M.D., aged 33 years. Dr. Stillé was a resident of Philadelphia, where he had acquired an enviable reputation as a writer and lecturer. He had just finished the preparation of a work on Medical Jurisprudence, on which he had been most devotedly engaged for the last two years of his life.

Death of Elisha Bartlett, M.D.—Died at Smithfied, R. I., on the 12th of July, Elisha Bartlett, M.D., late of this city. It is with profound regret that we record the decease of this eminent physician. His loss to our profession is almost irreparable, whether considered as an author or teacher. At the time of his death, Prof. Bartlett occupied the Chair of Materia Medica in the *Coll. of Phys. and Surgeons*, in this city.

We hope to be able to present our readers with a more perfect biography of the deceased, at some future period.

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MASSACHUSETTS MEDICAL SOCIETY.

PRIZE QUESTION.

Through the liberality of one of its Fellows, the Massachusetts Medical Society is authorized to offer the sum of *One Hundred Dollars* to the author of a Dissertation, which may be adjudged worthy of a prize by a Committee appointed by the Councilors of the Society, on the following subject, viz.:

"*The History and Statistics of Ovariotomy, and under what circumstances the operation may be regarded safe and expedient.*"

Dissertations for the prize must be sent, post-paid, to the Corresponding Secretary, Dr. C. E. Ware, 6 Temple place, Boston, on or before the *first Wednesday* of April, 1856.

The Prize is open to the profession throughout the country.

By order of the Massachusetts Medical Society,

B. E. COTTING, Recording Secretary.

Roxbury, Mass., Aug. 11, 1855.

NEW YORK OPHTHALMIC SCHOOL.

FOURTH SESSION.

Dr. M. Stephenson will repeat his Course of Lectures on OPHTHALMIC SURGERY, at the N. Y. Ophthalmic Hospital, No. 6 Stuyvesant-street, during the Winter of 1855–6. For further particulars inquire of Dr. S., at No. 167 East 14th-street. The avails of the Course to be given to the Hospital.

Testimonials from the Class of 1854–5.

"*Resolved:*—That we highly appreciate the Professional and Gentlemanly deportment of Drs. Stephenson and Garrish, the attending Surgeons of the New York Ophthalmic Hospital; not only in their skillful and humane attention to the afflicted poor; but also in their readiness to impart clinical instruction to the members of the New York Ophthalmic School."

"*Resolved:*—That the New York Ophthalmic Hospital and School are not the least among the numerous advantages which the city of New York affords to medical pupils, over that of any other on the continent of America."

"*Resolved:*—That we have listened with great satisfaction to the instructive Course of Lectures recently delivered by Dr. M. Stephenson, on Ophthalmic Medicine and Surgery at the Hospital.

Extracts from the published resolutions of the class.

G. F. Thompson, M.D.
J. Simpson, M.D.
H. L. Kelley, M.D.
Committee.

New York, March 1, 1855.

UNIVERSITY OF NASHVILLE.

MEDICAL DEPARTMENT.

The Fifth Annual Course of Lectures in this Institution will commence on Monday, the 29th of October next, and continue till the first of the ensuing March.

PAUL F. EVE, M.D., Principles and Practice of Surgery.

JOHN M. WATSON, M.D., Obstetrics and the Diseases of Women and Children.

W. K. BOWLING, M.D., Theory and Practice of Medicine.

A. H. BUCHANAN, M.D., Surgical and Pathological Anatomy.

C. K. WINSTON, M.D., Materia Medica and Medical Jurisprudence.

ROBERT M. PORTER, M.D., General and Special Anatomy.

J. BERRIEN LINDSLEY, M.D., Chemistry and Pharmacy.

THOMAS R. JENNINGS, M.D., Institutes of Medicine and Clinical Medicine.

WILLIAM T. BRIGGS, M.D., Demonstrator of Anatomy.

The Anatomical Rooms will be opened for students on the first Monday of October.

A full *Preliminary Course* of Lectures, free to all students, will be given by the Professors, commencing also on the first Monday of October.

A Clinique has been established in connection with the University, at which operations are performed, and cases prescribed for, and lectured upon, in presence of the Class.

Amount of Fees for Lectures in the University is $105. Matriculation Fee, (paid once only,) $5. Practical Anatomy, $10. Graduation Fee, $25.

Good boarding can be procured at about $3 per week.

Further information can be obtaind by addressing

J. BERRIEN LINDSLEY, Chancellor of the University.

Nashville, Tenn., July 18, 1855.

Castleton (Vt.) Medical College.

There are two full Courses of Lectures annually in Castleton Medical College, the *Spring Session* commencing on the first Thursday in February, the *Autumnal Session* on the first Thursday in August. Each Course will continue four months.

Joseph Perkins, M.D., Prof. of Materia Medica and Obstetrics.

William Sweetser, M.D., Prof. of Theory and Practice of Medicine.

Middleton Goldsmith, M.D., Prof. of Surgery.

William C. Kittridge, A.M., Prof. of Medical Jurisprudence.

Corydon La Ford, M.D., Prof. of Anatomy and Physiology.

George Hadley, M.D., Prof. of Chemistry and Natural History.

Adrian T. Woodward, M.D., Demonstrator of Anatomy.

Fees.—For Lectures, $50. For those who have attended two Courses at other Colleges, $10. Matriculation, $5. Graduation, $16.

Board per week, $2 to 2,50. J. Perkins, M.D., *Dean of the Faculty.*

Castleton, Vt., Jan. 1, 1855.

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